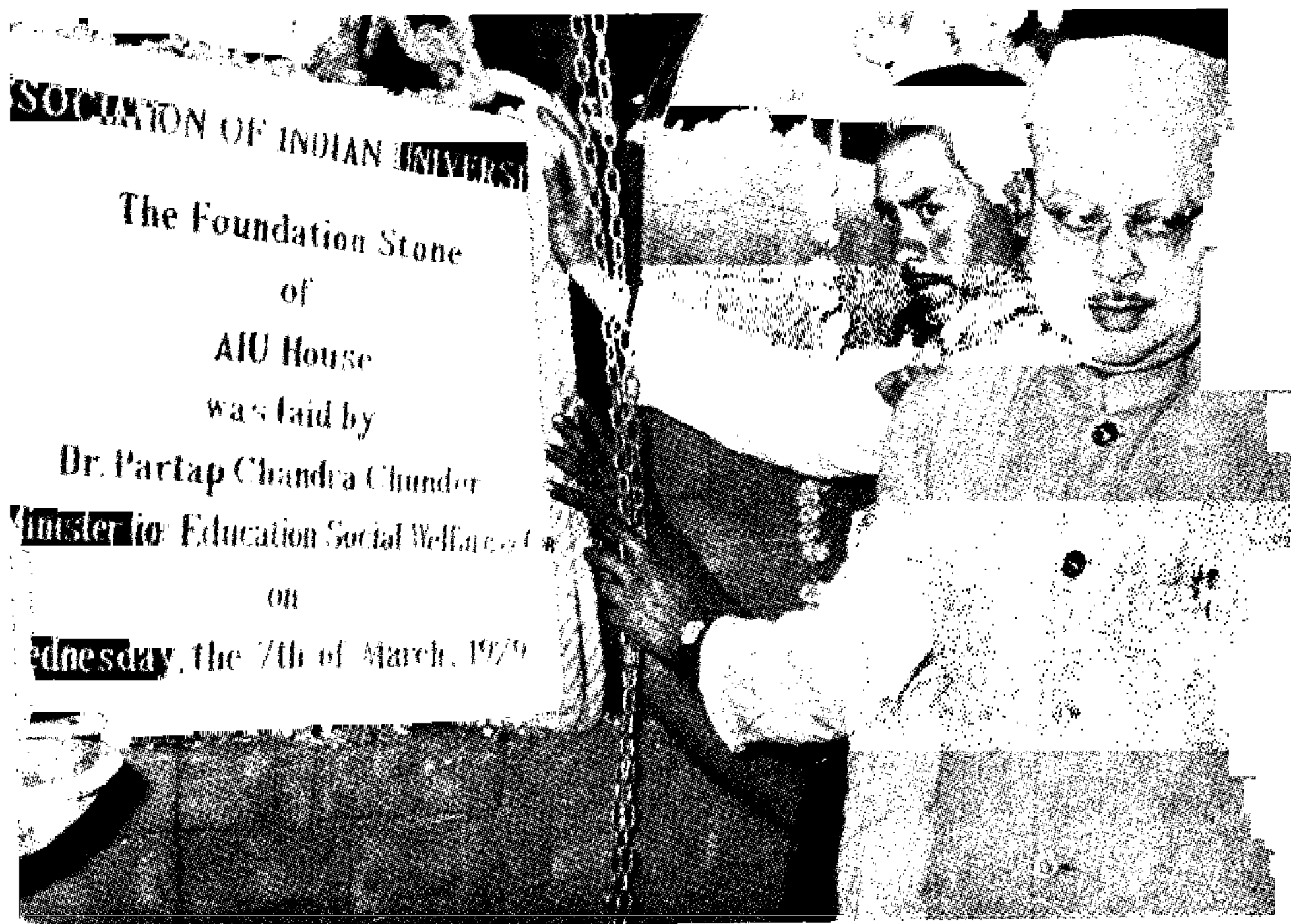


University News

A FORTNIGHTLY CHRONICLE OF HIGHER EDUCATION & RESEARCH MARCH 15, 1979



Dr. Partap Chandra Chunder, Union Minister for Education & Social Welfare, at the Foundation Stone Laying Ceremony of AIU House in New Delhi.

SAURASHTRA UNIVERSITY

RAJKOT-360005

Applications in the prescribed forms are invited for the undermentioned posts in the various Departments of this University. Application forms alongwith detailed requirements of qualifications and experience for these posts will be available from the Registrar, Saurashtra University, University Campus, Kalawad Road, Rajkot-360005 on sending a self-addressed envelope of the size 23x11 cms. with postage stamps worth Rs. 1-15.

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**V.M. DESAI
REGISTRAR**

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

P.O. I.I.T. POWAI, BOMBAY-400076

Advertisement No. 960/79

Applications are invited for the faculty positions of Assistant Professor and Lecturer in the following areas in the departments of the Institute. Applicants should give an account of their academic and professional record and a list of research publications. A candidate may be considered for a lower position if not recommended by the Selection Committee for the post applied for.

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Scale of Pay

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Qualifications & Experience & Fields of Specialisation

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Qualifications

Applicant should have consistently excellent academic record with Doctorate/Master's degree in appropriate field from a recognised University/Institute. Carrying out independent research and guiding research desirable.

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Minimum 5 years' experience in teaching/research/industry for the post of Assistant Professor.

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Fields of specialisation

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(i) Vibrations, Dynamics of Machines, (ii) Machine Tools (iii) Welding (iv) Fluidics and Fluid Power Engineering, (v) Energy Conversion (New Energy Sources).

For the post of Assistant Professor only

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Fields of specialisation

(i) Materials Technology (ii) Ferrous Process Metallurgy, (iii) Extract Metallurgy and Process Engineering and (iv) Corrosion Engineering.

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Qualifications & Experience

A good degree in Engineering/Architecture/Applied Art and Post-graduate education in Product Design/Industrial Design. Relaxable in the case of candidates with considerable experience and proven ability. At least five years' teaching or professional experience in Product Design/Industrial Design.

(ii) Lecturer

Qualifications, Experience & Fields of specialisation

Degree in Mechanical Engineering or Design field with 3 years' experience of research work in Ergonomics.

OR

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The posts are permanent and carry allowances such as D.A., C.C.A., H.R.A. as per rules of the Institute which at present correspond to those admissible to the Central Government employees stationed at Bombay. Applications should be made on the prescribed form obtainable free of charge from the Registrar of the Institute by sending a self-addressed envelope of 25 cm x 10 cm size. Indian candidates abroad may apply on plain paper in duplicate. Candidates employed in Government/Semi-Government Organisations or Educational Institutions should apply through proper channel. Completed applications should reach the Registrar, I.I.T. Powai, Bombay-400076 by 30-3-1979.

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*Opinions expressed in the articles
and reviews are individual and do
not necessarily reflect the policies
of the Association*

Hony. Editor : ANJNI KUMAR

Universities and National Development Linkage with Environment: Educational Innovation at Bombay University

Ram Joshi*

The role of Universities in relation to problems of national development has been a subject of discussion among educational planners in this country for atleast a decade now. The question came to the fore in the light of the report of the Education Commission (1964-66) which stressed the role of education as an instrument of development and change and recommended a new pattern of education with that role in view. The phased introduction of the 10+2+3 pattern meant that the Universities had to be ready with their new three year degree courses before the commencement of the academic year 1977-78. This, in turn, required them to undertake an examination of the traditional role of the University and the educational philosophy underlying its current courses with a view to determine their usefulness in the light of the changing goals and priorities of education.

The opportunity was utilised by the University of Bombay to move decisively in the direction of socially relevant course offerings, first at undergraduate and later at postgraduate levels. The object underlying the new courses is to sensitize the minds of the young to social reality around them through a series of social awareness courses and to equip them not only with theoretical skills and tools for a proper analysis and understanding of social problems, but also with values and attitudes which would enable them to participate in the national endeavour to solve those problems and thus make their full and willing contribution to national development. After all, education is not mere acquisition of theoretical knowledge; it also involves the training of the mind and an inculcation of certain values and attitudes for the building up of a better society. Universities have to provide an intellectual leadership to the society and not remain content with mere teaching and academic research. The new course structure has been designed with that object in view and seeks to bridge the gap between academic pursuits and social concerns by bringing the concept of social relevance into teaching and research programmes and by adding the important dimension of applied or practical training to the teaching of theory. The University has decided that it can no longer remain in ivory tower isolation but must adopt new ways of teaching and learning through participation in community action, making such action itself the vehicle of learning. The new courses including those like Foundation Courses and Rural Development courses need to be viewed from this point of view.

Genesis of the New Courses

The University has introduced a five-paper course on Rural Development which can be offered by any undergraduate student in the faculties of Arts, Science or Commerce as an elective course in lieu of one of the conventional discipline-oriented courses. The course constitutes about one-fourth of the total course load in the Science faculty and about a third in the faculties of Arts and Commerce. In 1977-78 which was the first year of its introduction, only four of the colleges in Arts, Science and Commerce faculties offered the course and the number of students was 108. This year, only the second, the number of colleges offering the course has doubled and student enrolment nearly trebled. It now stands at 290 (including 100 in the second year). Out of the 190 new students enrolled this year, as many as 140 come from mofussil colleges and this is as it should be. The early popularity of the course and the extent of response for it both from colleges and students augers well for the future of this educational innovation undertaken by the Uni-

*Vice-Chancellor, Bombay University.

versity. Its significance is three-fold. It represents, first, a pioneering decision by a traditionally conservative university to break with its tradition and launch into a critically important problem area of our national development; second, it is pre-eminently an inter-disciplinary course bringing different disciplines to bear on it. It covers not only Social Sciences like Economics, Sociology and Political Science but also such natural Sciences as Chemistry and Botany and commercial subjects like Marketing Farm Management and Finance. Finally, its importance lies in the fact that the course includes a substantial component of field work. The course is designed as an exercise in 'experiential learning' in the true sense of that term with each of the five papers providing 30 percent of the grade for practical work on the farm. The university has set up an 'extension campus' for this purpose in a predominantly tribal area about seventy miles from Bombay. This provides to students an excellent opportunity to blend theory with rural life experience and practical field work in an ideal setting. It also gives them first hand knowledge of the different governmental and non-governmental development agencies operating in the village to bring about integrated development and to examine their efficacy on the one hand and villagers' responses to such agencies on the other. This rapidly rising institutional infrastructure has opened up new possibilities for growth and in conjunction with the emerging grass-root leadership, is slowly but surely changing the face of rural society. To expose young minds to this change through planned programme of stay and work along with this infrastructure is itself the beginning of that new education which will link the skills and values of the younger generation to specific tasks of national development.

Content of Rural Development Course

As stated earlier, there are in all five papers with three options to Paper V. Every paper carries a theory portion of 70 marks and field work of 30 marks. In Arts and Commerce faculties paper is to be studied in each of the first two years and three papers in the third and final year. In the Science faculty, on the other hand, the first two papers are to be studied in the first year and the remaining three papers in the second year. This leaves the student free to concentrate on his discipline-oriented subjects of specialization in the final year. The five papers are as follows.

Paper I: Organisation of Rural Life : This is a paper on an acquaintance level. The idea is to acquaint the student with what rural life is like. It covers such topics as village social structure, economic system, rural administration and agent of social change.

Paper II : Production Economics and Farm Management : This paper introduces the students to factors of production, particularly agricultural production such as allocation of resources, nature of cropping patterns, technology involved, quantum of yield, Farm Management including utilization of local resources, landholdings, soil testing, use of fertilizers

and manures, use of gobar or bio-gas plants, maintenance of farm accounts, budgeting and cost-benefit evaluations.

Paper III : Rural Problems and Strategies of Rural Development : This paper is designed to enable students to identify rural problems and to study them at a deeper level and in detail and then to work out strategies to solve them. It covers topics like Project performance, Planning and rural development, price trends, land tenures and other problems, population growth and behaviour, labour force concept, ideological content of alternative strategies of rural development and problems arising from mechanization and modernization.

Paper IV : Marketing and Finance : Here the student is executed to study the problems of marketing village products and how markets affect price level. The student will also have to study various financial agencies from local money lender to co-operative banks, land mortgage banks and nationalised banks.

Paper V: Production Techniques and Organisation : In this paper students study general features of enterprises other than agriculture such as cattle breeding, dairy, fishery, forestry, horticulture as well as important cottage and village industries and small-scale industries located in the rural areas.

There are three options to paper V namely, (a) Home, Health, Hygiene and Nutrition, (b) Chemistry and Biology in Rural Setting; and (c) Food Science. The first option may interest girls in particular while the other two options may be specially useful and interesting to Science students.

Practicals

Every paper has, as stated above, a theory content carrying 70 marks and practicals of 30 marks. For the latter a student is expected to spend about four weeks in a rural setting, preferably at a stretch.

The field work for Paper I is more at an identification and observation level while for Paper II there will be involvement in actual field operations and case studies. In paper III more stress will be given on preparing rural economic profiles and development plans. The student will be asked to participate in the working of co-operative societies, banks and credit extension programmes etc. Paper III again will require a student to acquaint himself through participant observation with the particular problems of the village and the relative merits and demerits of alternative approaches to development that are being tried there. For papers IV and V students will submit a project report on any field topic in lieu of practicals.

Utility of the Rural Development Course : The question of the utility of this innovative course has to be viewed from two angles; from the point of view of individual student and from the point of society.

The course being primarily an educational scheme the emphasis is naturally on the student. It is expected that after the completion of the course, the

student should be fully acquainted with the problems of rural India, that he should be sufficiently motivated to handle any of those problems when he would be asked to do so if he is in employment of any of the development agencies, that he should be able to select and be considered qualified for any employment that concerns rural development such as rural banking, block development officer, animal husbandry or in institutions in urban areas concerned with rural development. In the alternative the student should be able to display qualities of entrepreneurship in starting an occupation or vocation on his own with resources from rural surroundings.

From the social point of view the entire course and particularly the field work is so planned that investment in education should not be barren and parasitical as it is at present but must result, simultaneously as well as ultimately in an investment in development. The field work is being so organised that on the one hand the student would gain a valuable experience, and on the other hand, it would result in concrete social benefits. With a sound theoretical base and rich experience in the field at the grass-roots level, the Rural Development Course, it is fervently hoped by the University, will help in generating a framework of planning at the implementation level and also in generating social idealism and enthusiasm among the University youth for national development.

The second significant innovation recently undertaken in terms of forging linkage with environment is the introduction of what have come to be called the "Foundation Courses" in the three faculties of Arts, Science and Commerce. They comprise two compulsory papers, one at each of the first two of the three year degree course. The first paper is entitled "Elements of Social and Economic Life in India" and the second, "Science, Technology and their impact on Society".

The major purpose of the Foundation Courses is to heighten the social awareness of the college beginners by equipping them with a wider intellectual culture before he adopts any one of the Specialised Streams. Thus, hopefully, future scientists, technicians and medical men will not remain ignorant of social realities and future social scientists will have at least a nodding acquaintance with the great developments in sciences which have shaped the modern world. Essentially it is an experiment in 'General Education' and although no one can or wishes to reverse the process of specialisation so necessary in the modern world, at least a small corrective to meet the emerging crisis of the two cultures is considered essential by educationists. One of the glaring defects of our educational system is its lopsidedness. Narrow and early specialisation result in robbing the student of the essential opportunity for a more rounded education required to fulfil the complex obligations of citizenship in the modern society. Everyone has to be a citizen—and an enlightened one at that—before he becomes a specialist in any branch of knowledge. It is therefore necessary that every undergraduate, irrespective of the

faculty to which he belongs, must have a fair acquaintance with the conditions and problems of his own country. He must be made aware that he himself is a product of the forces which have shaped the society at large. He can, this way, become conscious of his roots as well as of the social environment which has gone into the making of his personality.

The modern society is a technological society. Science and technology are being increasingly harnessed for social purpose and this has created problems of a very complex nature including moral questions. Greater and greater use of science and technology is no more found to be an unmixed good since it has posed some basic problems concerning relationship between man and nature and between man and man. Both the scale and quality of our lives have changed radically in the past century or two and questions which go to the very root of the meaning of life and future of human civilisation are raised. It is imperative that undergraduates are exposed to some of these problems so that they are better prepared to face them when confronted in after-college life. The second paper deals with a broad sweep of scientific and technological progress made by modern man and against this backdrop it discusses the economic, technological, political, religious and moral problems created by science and technology. After the initial difficulties which included faculty and student resistance, the Foundation Courses seem to have settled down as an integral part of the new undergraduate education in the University.

Education to be viable and credible has to have an interface with Society. The recent innovations like Rural Development or Foundation Courses introduced by the Bombay University are in the nature of establishing just such an interface through cognitive and institutional links with environment to give education its social relevance and its elan vital. □

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Universities and National Development

—Linkage with Environment

L. R. Shah*

Higher Education is assuming an increasingly important role in the educational system and in the life of nations, as it is expected to respond to the new demands arising from the rapid transformation of societies and to the aspirations of individuals for economic, cultural and intellectual improvement. In addition to the traditional functions of higher education, teaching, training and research, as a means for the transmission and advancement of knowledge and for the provision of qualified manpower, new emphasis is laid now on the obligation to adapt the higher education system to the society in which it operates, and to the many needs of that society. These are convergent and complementary objectives.

The conception of development underlying this action is that of integrated development, which would imply not only economic growth but overall social and cultural development, based on economic and technological progress, with its main focus on individual self-fulfilment. Development calls in fact for full use of all the community's human resources and their active participation in the Community's life and advancement. The democratization of higher education is, therefore, a main prerequisite for the fulfilments of its development function. While it cannot be reduced to a matter of mere quantitative expansion, any increase in the numbers of those enrolled in higher education cannot be limited to a growth in the number of students who constituted its traditional clienteles. It is essential that access to its institutions be extended to the various age groups and to various social categories which were hitherto excluded from it.

Established chiefly in urban areas and aimed at training an elite, institutions of higher education have helped to maintain and emphasize, in the majority of countries, a cleavage between urban and rural populations on the one hand, and between intellectual and manual workers on the other. These gaps have by no means totally disappeared, even in the most industrialized countries, not to mention the countries which imported models from old colonial powers. The way to integrated rural development would be much easier if higher education was made accessible to and relevant for rural populations. This is a particularly striking illustration of two demands which must be met by higher education and which must determine its development: (i) democratization, and (ii) integration in the community in which it must contribute to development. Also, if our universities are to enjoy the advantages of their urban position, if they are to be to Indian society what the

great urban universities of Europe have been to their societies, they must assume responsibility for the development of urban areas. What they need is an awareness of their opportunities and potentialities; what they need is a philosophy.

In the Soviet Union, the "people's universities" provide Soviet citizens with a State-run means of self-education. They offer special facilities for meeting the educational requirements of the population by making courses available to workers, members of collective farms and skilled workers in various sectors of the national economy and culture. In the larger factories and plants, part-time higher education is provided for workers, in the form of sandwich courses. These establishments of higher technical education will eventually become one of the main forms of "open" post-secondary education and training and to foster to a considerable extent the integration of productive work in every-day life and lifelong learning. In the United States, one example open to "non-traditional" students is that of the Community Colleges. The community colleges are based on the principle of freedom of access to all, and the curriculum is designed for all those whose place of residence, lack of previous formal education or lack of adequate resources has prevented them from pursuing their studies. The experience gained in recent years shows that the community colleges offer new opportunities for vocational advancement.

The provision of access to higher education for adults and young people who may not have had a normal academic career—workers and by members of rural populations—who constitute the vast majority of the population of our country should receive high priority in our higher education system if it is to ensure the full use of human resources in the context of lifelong education. In addition to its function of imparting knowledge to which all individuals are entitled, the educational system as a whole, specially institutions of higher education, must henceforth endeavour to enable each individual to supplement and overhaul his knowledge in the light of the progress of science and technology and of the requirements of society. It is no longer enough to seek to remedy the lack of initial training. It must now be accepted as a *sine qua non* for the effective functioning of higher education—as indeed of all education—that such initial training must be constantly supplemented, broadened and updated. It also goes without saying that higher education must, if it is to ensure both the effective democratization of education and society and the full participation of individuals in progress, do more to develop the critical faculties and prepare the individual to take an active part in

*Programme Adviser, Ministry of Education & S.W.

community development, thus enabling personal fulfilment along with the community's advancement. The traditional task of providing training for the various liberal professions and for various specialized activities at the higher levels must be reviewed and transformed into one of training professional development personnel without neglecting integrated development of the community.

It is also clear that in addition to research work university institutions must undertake studies, surveys and consultations and provide expert advice for those responsible for taking decisions and the different groups involved in development work, that is, ultimately, all socio-occupational groups in the community. The University can also provide a common meeting ground for the divergent elements of the community and assist in reaching an objective understanding of its problems while at the same time providing the basis for the development of theory and policy for general application elsewhere. No community issue, whether it results from social strain, language tension, religious conflict, nationality origin, or labour-management disagreement, should be beyond the interest of the university scholar.

The balance to be struck between new and traditional function is indeed one of the problems to be studied if higher education institutions are to be able to fulfil their responsibilities towards society while remaining true to their own mission. In other words, it needs to be considered how higher education institutions are to reconcile their traditional role with their mission of serving the community. The community pays heavily for maintaining the institutions of higher education and, therefore, it is entitled to benefit from their achievements with their traditional activities relating the life of mind.

A further aspect of the restructuring of higher education institutions is bound up with the need to open their doors more widely to a non-traditional clientele of adults, and particularly of workers, who have been denied the opportunity to follow a normal school and university career. In addition to higher courses of the current academic type intended for young students who have completed their secondary education, courses should be made available for adults during periods possibly coinciding with productive work, or "sandwich" courses. Appropriate arrangements might be made within the framework of conventional institutions, or measures might be taken here again to set up new types of institutions. These new curricula and new arrangements, so essential for the full utilisation of human resources, call for new admission procedures based on practical experience and previous attainments of various kinds as much as on traditional academic standards, as also for new teaching methods, particularly a more extensive use of the various methods learning by radio, television and correspondence, as well as through institutions of the type exemplified by the Open University.

In addition to the measures to be taken in order to create new types of institutions and to achieve a better distribution of existing higher education institutions and a restructuring of their curricula, various

changes of emphasis in respect of the content of education would seem to be necessary.

The necessities of community development cannot fail to have considerable repercussions on content of education. In particular, it will be necessary to undertake a number of studies on local history, cultures and languages and to train the various categories of development personnel; but it is equally necessary to rethink, as has already been done in some countries, the teaching of medicine in terms of both the traditions and needs of the community, and to adapt certain courses in technology for purposes of developing appropriate technology. It is of foremost importance that higher education institutions, like the other components of the educational system, should closely link their activities to the world of work. The aim should be to provide students with knowledge that can be applied and used right-way. An effective contribution will be made to development of higher education institutions devote a large proportion of their efforts to applied research and to consultations undertaken at the request of the public authorities, local communities or different categories of the population. Such applied research and consultations should be related to the problems relating to rural or industrial development. Another means of linking teaching and research work to the world of work would be to make a regular practice of securing the assistance of different categories of gainfully employed persons from the different sectors of rural and urban communities and of officials responsible for social and administrative services.

A modern university should provide for a multi-level training system which will be able to meet the country's needs more effectively and to enable a greater number of people to continue to use and develop their skills at different periods of their lives. In a few years' time, such a system might lead to a type of post-secondary education in which full time training periods alternate with periods of participation in working, productive life, thereby achieving the ideal of a learning society. "Soil health care" programme undertaken in the National Service Programme in 1979 on an experimental basis is an instance of how a linkage can be established between what the students of Chemistry learn in the classroom of a college and how their knowledge and training in chemistry can become relevant to the needs of the community and help in solving the problems of the farmers.

Another manner in which full use can be made of the resources higher education institutions by the community is by allowing various categories of the community to use the institutions' buildings and educational premises—libraries, laboratories, sports facilities, etc. This approach implies that higher education institutions must also devote an appreciable part of their efforts to cultural promotion activities such as conferences, exhibitions and film shows which will induce large sectors of the population to enter the premises of universities and other higher education institutions and to take part in their life. The various sectors of the community must in fact

(Continued on page 164)

AIU House

From our Staff Reporter

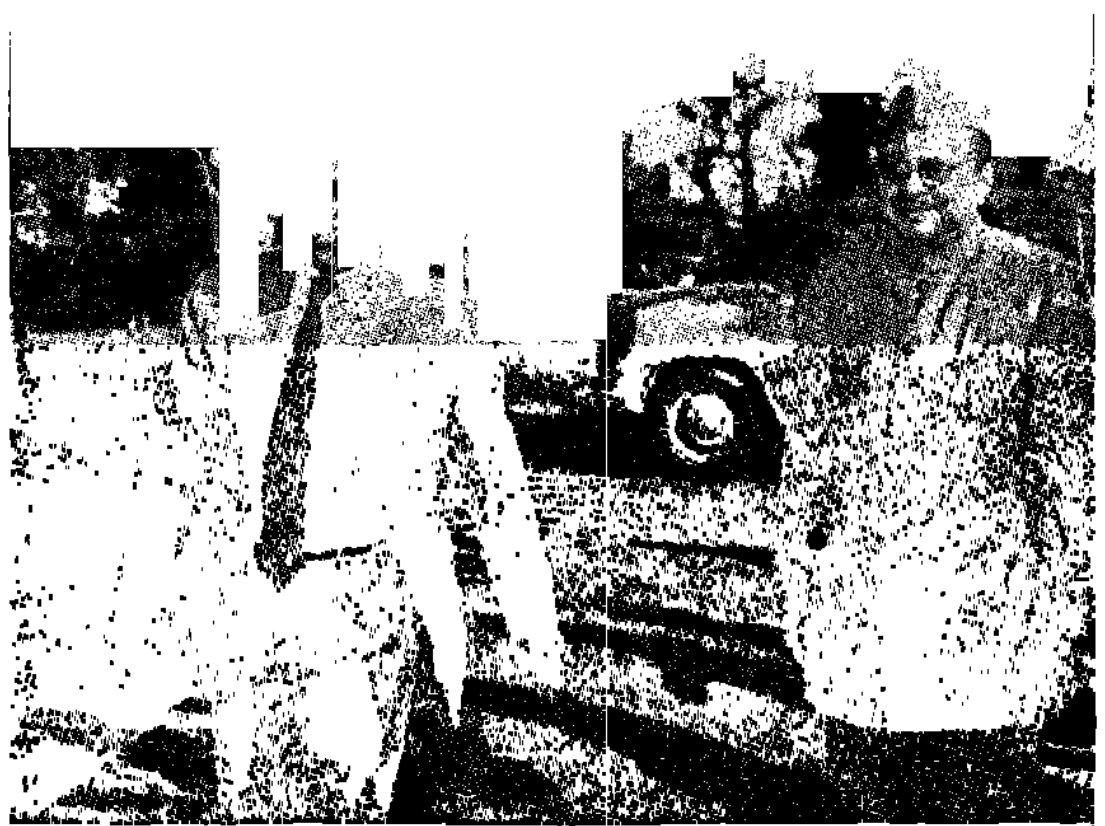
The 7th of March 1979 would remain an important landmark in the History of AIU. On that day in the presence of a distinguished audience including something like 60 Vice-Chancellors, educationists and others connected with higher education, Dr. P.C. Chunder, Union Minister for Education, Social Welfare & Culture laid the foundation stone of the AIU House at Plot No. 16, Kotla Marg, New Delhi.

Dr. C.R. Mitra, Director, Birla Institute of Technology and Science and the President of the Association of Indian Universities received the Minister. In his welcome address Dr. Mitra referred to the excitement prevailing on account of a cherished dream of the AIU which was now about to be realised. A message which had just been received from the President of India wishing the function

all success was read out by him.

Addressing the assembled Vice-Chancellors and other invitees,

Dr. Chunder spoke in appreciative terms the role AIU had played in the matter of development



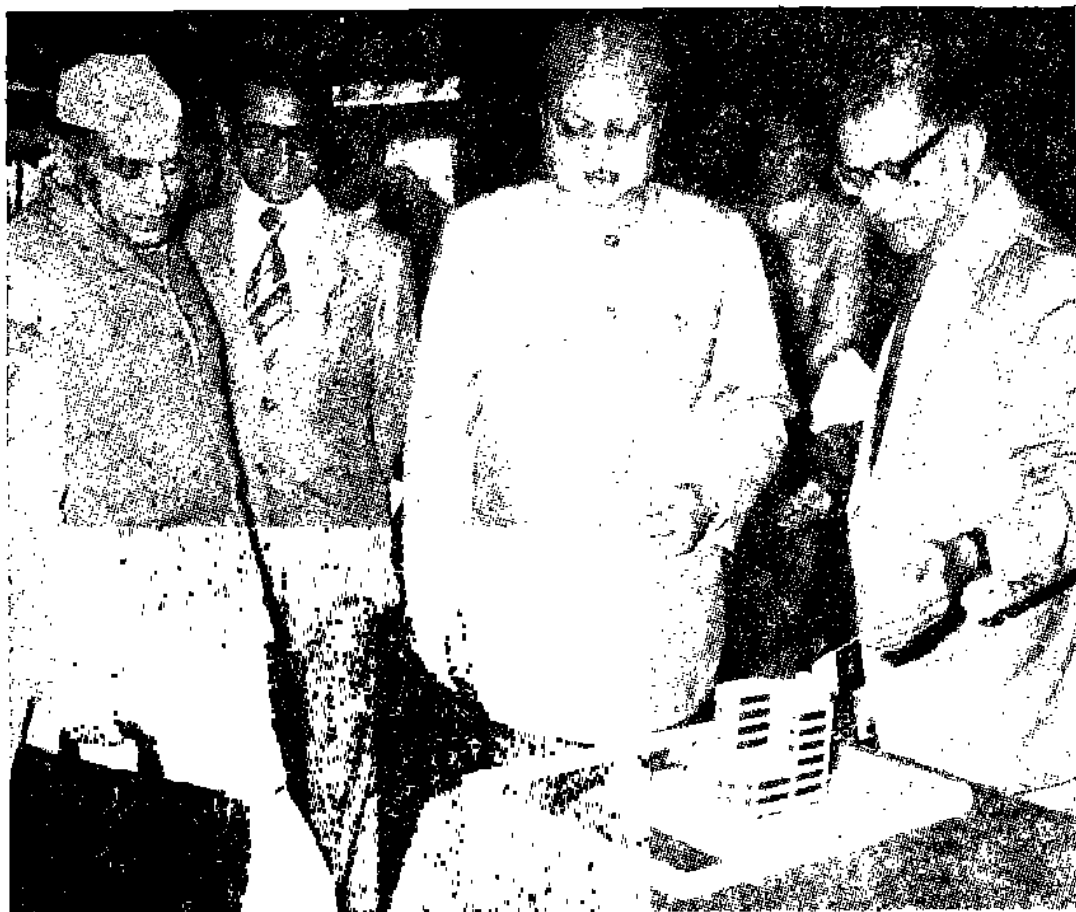
Dr. C. R. Mitra, President AIU, receiving the Chief Guest, Dr. P. C. Chunder, Union Minister for Education and Social Welfare.



A view of audience at

and coordination of higher education in this country. In particular he referred to two problems which were facing the universities and which were of some immediate concern. These problems were the student unrest in universities and mass copying in examinations. He drew particular attention to the books on 'Question Banks' and other related publications in the field of examination reform brought out by the Association of Indian Universities. He cited the example of the Examination Committee in Calcutta University and said sometime hard decisions had to be taken. He expressed the hope that AIU and the Vice-Chancellors would continue their endeavours in the development of higher education and relating the same to the national needs of this country.

The Secretary of the Association of Indian Universities, Shri M.S. Ramamurthy, proposed a vote of thanks.



Dr. C. R. Mitra, President AIU, showing the model of AIU House to Dr. P. C. Chunder.



the foundation stone laying ceremony of AIU House.

Panel Discussion on Universities and National Development

(From our Staff Reporter)

A panel discussion on Universities and National Development was organised by the Association of Indian Universities. This followed the foundation stone laying ceremony of the AIU House on 7th March, 1979.

The panel consisted of Dr. Atma Ram, Chairman, National Commission on Science and Technology, Prof. Satish Chandra, Chairman, University Grants Commission, Shri P. Sabanayagam, Secretary, Ministry of Education & Social Welfare, Dr. J. D. Sethi, Member (Education), Planning Commission, Dr. S. Varadarajan, Chairman & Managing Director, Indian Petrochemicals Corporation Ltd, Dr. D.V. Kapoor, Chairman, National Thermal Power Corporation Ltd, Dr. H.N. Sharan, Director, Bharat Heavy Electricals Limited and Mr. Bazle Karim, Additional Secretary and Director-General, Bureau of Public Enterprises.

Dr. C.R. Mitra, President of the Association, introduced the panelists to the Vice-Chancellors and others who were present on the occasion.

Dr. Varadarajan, in his opening remarks, stressed the need for 'quality' in Higher Education. Mr. Bazle Karim informed that since knowledge was doubled once in 7 or 8 years, there was a need to produce graduates/postgraduates with suitable intellectual abilities and skills to adapt to changing needs. He felt strongly that success and progress in various sectors depended on the quality of products from universities as these formed the 'inputs' for employing organisations. Dr. Atma Ram, in his chairman's remarks, referred to a dichotomy that existed. On the one hand there was unemployment while on the other, the right type of men were not available to fill various positions. He felt that there was a dearth of technicians in all fields. He strongly pleaded for a change in approach/content

in our higher education particularly in professional fields. It was a pity, he said, that the content and curriculum in Indian universities were based on those of western countries without any reference to the requirements of our country. Instead of concentrating on Ph.Ds and D.Sc.s, he felt, that universities in India must concentrate on development of appropriate skills and it should be the endeavour to produce a 'generalist' (even in professions like medicine, engineering) than a 'specialist'. Talking of 'student unrest' Dr. Atma Ram felt,

in development of industry; the interaction between engineers/industry was inadequate. Practising engineers must have 'updating' courses while Research and Development work in universities and industries must be related.

Dr. Sethi deplored the decline of institutions in general from a 'left over' system of Education from British and the massive linear expansion since then without any kind of integration and techno-economic optimisation. He felt that universities aligned themselves to an 'import substitution' system; prepared their graduates/



Dr. S. Varadarajan addressing the members at the panel discussion held in New Delhi.

that this was mainly because of irrelevant courses, lack of ability of teachers to enthuse students and due to lack of physical facilities. He also deplored the emphasis on training placed by various industries/organisations before the graduates/postgraduates were fitted into job positions. He summed up saying that the reluctance on the part of experienced teachers to teach undergraduate courses was one of the major factors in 'student unrest'.

Speaking of the role of universities in national development, Dr. Sharan felt that professional students particularly of engineering and technology, were not trained adequately to participate

postgraduates to suit the needs of foreign collaboration/foreign technology. He was of the view that without any base for our system, we were now launching on 'export promotion'. He pointed out that medical education ignored 'health services'. Universities did not have courses on health services. There were dichotomies; urban-rural and industry-agriculture. He suggested that universities must try to impart 'relevant' education.

Dr. Kapoor, made a few suggestions to remedy our education system, as a short term measure. While he thought that 'quality' consciousness was very low, the practical bias in education was

(Continued on page 158)

54th Annual Session of AIU meets at Patiala

The 54th annual session of the Association of Indian Universities was held on 8th and 9th March 1979 at the Punjabi University, Patiala. Mr. Justice S.S. Sandhawalia, Chief Justice of Punjab and Haryana High Court who inaugurated the session said the last decade had seen an unprecedented expansion of higher education in the country which in turn had resulted in decline of academic standards. The university system should now be geared to adjust to the increased rate of enrolment to maintain standards. The standards of attainment at college and university level were uneven all over the country. He hoped that the meeting would discover a solution to this crucial issue. The limited funds allocated to higher education during the Sixth Plan would be an inhibiting factor. We would now be entering an era where we would have to live with the fact of reduced resources. The best way would be to make full use of the resources and our capacity for hard work. The Chief Justice said the real contribution to solve the problem had to come from thousands of teachers who man our educational institutions. How to get the message across to them, how to arouse their enthusiasm and how to make them rise to the most formidable task that confront us today. The Chief Justice said the starting point of this new emphasis should be our interest in the welfare of students. The educational endeavour had to revive the affectionate and mutually supportive relationship between student and teacher.

Dr. C.R. Mitra, President of the Association of Indian Universities called for creation of an academic community out of the diverse elements which bedevilled the universities. He emphasised that a community could develop only through shared experience, through unity in action and thro-

ugh a sense of identity. He underlined the need for a proper theory of knowledge and said that it was only such knowledge as was not alienated from its origin and its world of practice, which could become a blue print for action. He stressed the need to develop a general theory of collective action which could provide in specific situations the rationale for collective efforts towards community goal. Dr. Mitra iden-

we have added one more of such procedures without making any fundamental analysis as to what system of management we need for the task in hand. In a vast country like ours, one university will differ from the next in such details that a self-assured management technique and method could not be imposed from outside. Each university had to learn to discover its own techniques and rules of procedure. Referring to the third



*Dr. C. R. Mitra, delivering the Presidential address
at the inaugural session of AIU.*

tified the three crucial matters for group discussions at the meeting and hoped the discussion on cost of higher education would give insight into complex process and yield concepts and strategies by which excellence could be achieved through less expenditure. In costing of higher education the process rather than the product should be the main concern. Dr. Mitra said that we never modified the archaic administrative procedures that we inherited from the period prior to Independence, but

topic for group discussion 'Linkage with Environment'. Dr. Mitra said the involvement had to come from a sense of humility and not through the big-brother approach that was often flaunted. Indeed, this should be a process through which we partly paid back to our society what the society had so generously given us. As long as linkage with the environment remained a discrete and unintegrated component of our task and purpose we would for ever remain alienated from our

environment and only invite further justified hostility. If we did not know how to create bridges within the university between department and department, between faculty and faculty, between students and teachers and administration, our claim that we could bridge the gap between our ivory tower and the environment would be exposed as a hollow claim.

Dr. Amrik Singh, Vice-Chancellor of the Punjabi University welcomed the vice-chancellors and other delegates attending the session. He detailed the contribution of the university in the field of higher education during the recent

exception to. At the same time in order that university standards may not go down the Association was of the view that remedial courses should be organised for such of those people who did not fulfil the minimum eligibility requirements for seeking admission to various courses in universities. The cost of running such courses should be fully taken care of by the concerned governments.

Prof. Satish Chandra, Chairman of the University Grants Commission, who met the vice-chancellors explained the mechanics of how the reports of the visiting committees came to be accepted by the Commission. He



Dr Amrik Singh, Vice-Chancellor, Punjabi University, delivering the welcome address at the inaugural session of AIU.

years. The university had been the venue of many national and international conferences. He said one of such international seminar on sculpture was proposed to be organised by the university in the next year. Some of the world famous sculptors, one of whom worked with Picasso, would spend about six weeks at the university.

The annual session considered the topic of reservation of seats and job opportunities for economically backward class of society and others. The Association felt that as a matter of social justice reservations for such categories of people could not be taken

pointed out that during the sixth plan period the departmental profile prepared by the UGC and vetted by the different subject panels would form the basis of an objective assessment to be made by the visiting committees that may be appointed by the UGC for assessment of the sixth plan needs. In view of the limited funds available to the UGC as sixth plan allocations the UGC would be forced to curtail the plan schemes that may be submitted by the developed universities. Such universities could however take advantage of the "quality programmes" that are being operated

by the UGC for which the UGC would be able to find support.

Arising out of the above, the Association decided that the Planning Commission and the Union Ministry of Education should be approached for raising the allocation for higher education at least to the level which obtained in the fifth plan. This of course would not mean re-ordering of the priorities already enunciated by the Government of India, namely, that primacy of attention should be given to primary education and adult education.

One of the more important decisions taken by the Association related to the admission of universities to the membership of the Association. Any statutory university or institution of national importance or deemed to be university could now apply and become a member of the Association on a provisional basis for a period of three years after the application had been considered by the Standing Committee of the Association. To qualify for regular membership however the Association would appoint a visiting committee which will give its recommendations noting the conditions within the broad framework indicated in the rules that the university would have to fulfil before it could be considered for regular membership. Also the Association would now undertake a review of all universities once in a period of 12 years.

With a view to safeguarding the autonomy and work as a watch dog on this aspect the Association would soon be constituting a sub-committee. Likewise with a view to measuring the academic standards of the university a separate sub-committee is to be constituted.

Personal

1. Dr. C.R. Mitra, Director, Birla Institute of Technology & Science, Pilani, has been elected President of the Association of Indian Universities, for the year 1979-80.

2. Prof. Lalit M. Aggarwal has taken over as Director of the All India Institute of Medical Sciences.

Group Discussions at AIU Session

As part of the 54th Annual Meeting of the Association of Indian Universities held on 8th and 9th March 1979 at the Punjabi University, Patiala, three Group Discussions were organised.

The group discussing **Linkage with Environment** was chaired by Dr. Ramaranjan Mukherjee, Vice-Chancellor of Burdwan University. In all, ten papers dealing with the theme had been received for discussion in this group. Prof. R.S.N. Sinha, Principal of S.K.R. College (Bhagalpur University); Dr. A.S. Atwal, Dean at the Punjab Agricultural University and Dr M.V. Pylee, Vice-Chancellor, Cochin University, personally presented their papers to the Group.

Prof. Sinha said in his paper that university campuses could not keep away from the environment existing around them. The problem of environment may be identified as the socio-economic, political and natural environment. The former influences and leaves their marks on the people in campuses and society. Often socio-economic pollutants namely distrust, disbelief, strife and strike abound universities. It therefore becomes pertinent to examine and study the socio-economic and political set up within which universities function. Universities should design courses which might suggest the proper regional development through a better location of industries and human settlement policies. The paper highlighted the pollutants of the physical, social, political & economic environment.

Dr. A.S. Atwal, emphasized that industrialization/urbanization and also careless exploitation of natural resources had changed the environment and the eco-system. The paper emphasized the need for environment education at all levels, i.e. from adult and primary education to college and university levels. Although some problems like wide-spread illiteracy, resources, public opinion and climate condi-

tions might come in its way, that could be overcome by systematic planning for imparting education. The plan may include education for 'general public' where subjects like population, human environment and its deterioration, epidemics, public hygiene, industrial pollution etc. can be taught through mass communication. At the school level some general courses could be introduced that would create awareness about the growth of human population and its influence on resources, usage of land, water and forest wealth and public sanitation, etc. At the college level science groups might have advanced courses for environment and eco-system. Arts courses might again impart some advanced knowledge about the general environmental problems. At the university level along with advanced knowledge in specific area pertaining to medicine, agriculture and other similar institutions, department of environment science might be created. Here curricula and courses on environmental science might be prepared.

An expert committee may also be appointed to work out the details of curricula for environmental education at various levels and to make recommendations about starting the institute of environment science in some of the universities.

Dr. Pylee, Vice-Chancellor of Cochin University presented details of the practical ways of linkages of his university with the industrial environment around. The University has recently decided to start a programme of continuing education for the technical personnel working in various industrial and government establishments located in Alwaye-Cochin industrial belt. The need for non-formal education as an integral part of continuing education has been increasingly realised and the University of Cochin wanted to extend its services in that direction. The scheme, apart from in-

creasing the employability on the individual, tended to bridge the communication gap that existed between the industry and the university. It was thus a need-based programme in keeping with corporate objective of the University.

With a view to assessing the feasibility of programme of continuing technical education, a conference was convened in August 1978. It was attended by delegates from industrial organisations and professional institutions in Greater Cochin. Proposal for certain courses were approved. As the first step towards implementation a survey of the individual needs of the practising technical personnel and the institutional needs of the industry was undertaken. Subsequently the University convened a two-day conference of outstanding persons in the fields of humanities, science and technology from all over India to discuss development possibilities of the university in different areas of study and research.

After thorough deliberations and also taking into consideration the proposals of the All India Council for Education, certain courses had been evolved.

There was a lively discussion on various issues related to linkage with environment. Prof. Mukherjee, Vice-Chancellor of Kalyani University, drew the attention of the group to the multidimensions of national development and stressed on two components namely Material or Objective and Moral or Subjective. Both the environments intra university and extra university must be considered. He appealed for restructuring courses, orienting courses, orienting them to the needs of grade, commerce, industry and society in general.

Dr. W.M. Kalamegh, Vice-Chancellor of Nagpur University pointed out that the gap between University and society must be bridged and with concrete examples drawn from his University experience, stressed the need to restructure courses to include certain areas of national development so that job orientation/work experience/self reliance/confidence

are created in the products from Universities. He suggested that education must integrate institutional training/practical training/field work/extension services. Research and teaching programmes must be geared to society.

Dr. K.S. Bilgrami, Acting Vice-Chancellor of Bhagalpur University suggested that extension services may be made compulsory both for undergraduate and post-graduate students. Prof. R.G. Takawale, Vice-Chancellor of Poona University gave details of experiments in Poona University in regard to interdisciplinary schools at P.G. level, energy studies, development of appropriate technology with the help of interaction with a group of villages.

There was also a suggestion that the universities and the AIU must link up with voluntary organisation in rural areas in the matters regarding guidance, training and studies to link universities with the rural environment.

Shri M.R. Apparow, Vice-Chancellor of Andhra University, gave details of Geo-engineering departments linkage with environment and courses for illiterate masses, adult education, continuing education etc.

Dr. N.L. Nadda, Vice-Chancellor of Ranchi University suggested that field work must form a part of curriculum and information regarding experiences of various universities must be disseminated.

Prof. Raja Ram Shastri, Vice-Chancellor of Kashi Vidyapeeth suggested that intensive studies to identify 'Core Curriculum', restructured to the needs of environment, may be undertaken by AIU as is being done by UGC to some extent. Prof. P. Sivalingam, Vice-Chancellor of Anna University of Tech. strongly suggested that universities must go to villages and must offer courses to develop skills in engineering/commerce/trade suited to village needs.

RECOMMENDS:

1. The Association of Indian Universities may take steps to formulate new courses restructured to suit the needs of local, regional and national development.

2. Linked with the above, will be a study of existing practices of universities that have restructured their courses to link them with environment. This information of the existing practices in various universities may be critically analysed to bring out the strengths and weaknesses so that this could be valuable to other universities.

3. AIU may undertake studies specific to certain universities, relating to linkage with industry/trade/business/commerce with a view to identify problems of implementation and suggest (a) structural changes (b) installation of planning & implementation system (c) installation of appropriate information system to cope with changing problems of linkage with environment.

4. AIU may undertake studies to link teaching/research extension to evolve courses on local and regional basis keeping in mind the problems posed by equivalence of courses in various universities.

5. AIU may assist universities in designing and conducting training workshops for teachers in implementing restructured courses.

Dr. (Smt.) Madhuri R. Shah, Vice-Chancellor of S.N.D.T. Women's University was the chairman of the Group which discussed INTERNAL MANAGEMENT OF UNIVERSITIES.

Papers were contributed by Prof. T.B. Mukherjee, Prof. R. Bandyopadhyay, Prof. P. Sivalingam, Prof. T.S.K.V. Iyer, Shri D.K. Ghosh, Prof. V. Natarajan and Shri A.K. Chaudhury.

Prof. R. Bandyopadhyay of the National Institute of Bank Management presented his view-points relating to linkage and structure of the present uni-disciplinary system and explained the methodology and objectives of a flexible and multi-disciplinary system whereby the internal system of planning [through cooperation] would be possible. The inherent weakness of the prevailing uni-disciplinary structure and the functional character of organisation of faculties were highlighted. Dr P. K. Ghosh, Dr A. N. Bose, Prof. Ramesh Mohan and other

Vice-Chancellors wanted clarification as to how the structure of multi-disciplinary proposition could fit in with the present uni-disciplinary system. The points of inter-disciplinary collaboration among faculties as also the style and pattern of exchange of ideas among different departments were explained by Prof. Bandyopadhyay. The need to forge links with the environment was also elucidated. Real life problems were multi-disciplinary. The structure and managerial processes of today were resistant to change. He advocated structural changes, installation of participative planning system and appropriate information system to cope with the problems of linkage with environment. He felt that dynamic leadership at all levels of University administration and academic tiers was necessary.

The multi-disciplinary approach was a technique of interaction with different departments and each University with its unique features would be able to suggest solutions for its own problems. A common framework with a common parameter could apply to involve all disciplines if principles were adopted. The idea was to break the present rigidity and to provide an environment that would facilitate linkage.

Dr T.B. Mukherjee Vice-Chancellor, Patna University, presenting his paper, emphasised the procedural aspects of appointment of Vice-Chancellors, the constitution of the Senate, Syndicate as also the composition of the statutory authorities of the Universities. The major problems of administration and academic and other problems of management, according to Dr. Mukherjee, were due to the relations between the State Government and the Universities. He advocated decentralization of administration, appointment of at least three Pro-Vice-Chancellors to share the burden of administration and assignment of definite responsibilities on academic staff for conduct of examinations. In suggesting the need for a sort of security force consisting of teachers and students to be main-

tained by the Universities themselves, he highlighted his personal experience.

The Vice-Chancellors who participated in the discussion, however, differed with the views expressed by Dr Mukherjee and emphasised aspects of leadership expected from the Vice-Chancellors in the administrative and academic management functions of Universities. Creation of a security force did not find favour with members.

Dr. P. K. Ghosh, Vice-Chancellor of North Bengal University raised the question of representation of students and non-academic staff, and the pattern of such representations on the statutory bodies. Dr. A.R. Desai of South Gujarat University pointed out that the policy of 'elected Vice-Chancellor' failed. He urged that the administration should be skilfully and carefully run.

Shri A K. Chaudhury, Registrar of Burdwan University presented his paper and mentioned that there was great deterioration in the management of Teaching and Research and in the administrative components of the Universities. There were also the problems of management of students' sector and non-teaching staff divisions. He emphasised the need for involving all the major sectors in the management of Universities in a statutory way so as to dispel the distrust among different sectors of University administration.

The Vice-Chancellors who participated in the discussions emphasised on the feed-back and other procedures of evaluation of teachers. They deplored the lack of dedication of teachers in their role as academics.

The Chairman summed up the discussions with the observation that the outdated pattern of administration needed change to meet newer responsibilities which had devolved on Universities and the expansion of Universities in the light of modern concepts of management. She emphasised the need for better human relations among various sectors of the universities. The Chairman advocated distribution of powers among functionaries and an imaginative and creative management.

The session on COST OF HIGHER EDUCATION was chaired by Dr. Ravi Prakash, Vice-Chancellor of Bhopal University. In all, four papers namely, Cost of Higher Education—Methodology for Measurement by Dr. S. K. R. Bhandari; Unit cost of Education—A case study on Hindu College, Delhi University by Dr. G.D. Sharma; Cost of Higher Education (received from Burdwan University) and Economics of Higher Education—A BITS Experience by Prof. V. Krishnamurthy were submitted. The papers were based on case studies. Dr. Bhandari and Dr. Sharma personally presented their papers to the Group.

Dr. Bhandari attempted to clarify the conceptual problems involved in the measurement of costs. He pointed out that costs should be measured separately for teaching and research, administrative services, students facilities, employees, residents and public services. He suggested that direct and indirect costs should be examined separately. Problems arising in the distribution of administrative non-specific expenditures should be carefully tackled. He, however, adopted 'proportion of direct expenditure' for distribution of such expenditure to various faculties and departments. Dr. Bhandari also pointed out that accounting and reporting method suffered from many limitations and that caused many problems in measurement of costs.

In the course of the discussion on the paper Dr. B.S. Bhanage Vice-Chancellor, Shivaji University, observed that as the cost of the education, costs incurred by institutions and fixed and revenue costs involve different methodology of measurement, the concepts of costs used for measurements needed to be clearly defined. Dr. P. D. Hajela, Vice-Chancellor of Allahabad University pointed out that while examining costs one should take due care of fixed cost of buildings and the costs on other infrastructure. Prof. R. C. Mehrotra, Vice-Chancellor, Delhi University pointed out that apportioning non-specific administrative expenditure to various faculties should be based on proper indicators.

Dr. Sharma while presenting

his paper clarified the concepts of unit costs and mentioned the problems which were likely to be faced in estimation of unit costs. He pointed out that dysfunctional way of presentation of budget is a major hurdle in estimation of unit costs. He also pointed out that unless unit cost was examined separately for each faculty and subject, cost studies normally did not unfold areas where economies could be affected. He, therefore, examined the unit cost for each faculty and subject separately. Here distinction was made between in-put and out-put costs. The size of class/course where unit cost was the least and wastage due to failure and dropouts were also estimated. The author suggested that there were certain subjects where, because of less number of students, unit cost was ordinarily high. Instructions in such subjects can be organised in collaboration with other colleges situated in vicinity. He pointed out that wastages in higher education could be reduced by providing counselling and coaching to the students coming from educationally poor background. He suggested that budget format presently used by educational institutions suffered from many limitations and a new format based on functions and activities may be evolved. Here help of programming, planning, budgeting system could be taken.

In the course of discussions, Prof. Hajela pointed out that since there was a difference between industry and education concepts of wastages and costs should therefore be carefully applied to education.

Dr. Mansoorali observed that due to reduction in in-take a lot of infrastructural as well as staff facilities remained unutilized. This raised cost of education. Therefore, studies should be conducted to find out surpluses resulting due to less intake and such surpluses should be utilized for other activities.

Professor B. Misra, Vice-Chancellor, Utkal University, and Dr. N. Shanmukha Rao, Vice-Chancellor, Jawaharlal Nehru Technological University, wanted to know whether there was any optimum size of class/course or

institution where unit cost was the least. On this point Dr. Sharma clarified that although his study showed some relationship between enrolment and per unit cost, the results could not be generalized because of the small number of observations. However, it appeared that costs in arts, social science and commerce faculties with less than 40 number of students was invariably high. Further, as the size of enrolment increased, cost declined. However, because of small number of observations no definite conclusions about optimum size could be drawn. It only suggested that some more studies needed to be conducted in this area.

Dr. Krishnamurthy of BITS in his paper observed that the task before the universities was to continue the educational growth with limited resources. In this context, the money-educational growth relationship needed to be reviewed. An attempt in this direction had been made by BITS. In this institution reduction in cost had become an integral part

of the processes of educational innovations and growth. This was achieved through introduction of flexible courses and restructuring of the faculty and department. This helped in utilizing the faculty as well as infrastructural facilities in the best possible way that reduced the unit cost and helped in the objective of continuation of educational growth with limited resources.

Burdwan University in its brief note observed that study on unit cost was an important aspect for institutional planning. However, the amount spent on higher education had to be viewed from the angle of contribution of higher education to national development.

The group in general was of the opinion :

- (a) AIU should undertake large scale studies on unit cost and make findings of such studies available to the member universities.
- (b) Studies should be conducted to find out the optimum size of class/course / institution

where per unit cost of supplying education was the least.

- (c) It was observed that budgeting format and methods of reporting suffered from many limitations and studies should be conducted to recast the budget format. This could be done by a team of researchers and practitioners in this field.
- (d) The resources available for the universities in future were likely to be less but the major concern of all universities was to continue with educational growth and development. The AIU should therefore conduct studies to find out how by restructuring courses the objective of educational growth with the limited resources could be achieved. Reduction in unit cost should become part of processes of educational innovations and growth.

The reports of the three group sessions were presented at a plenary session and these were generally endorsed. □

Panel Discussion on Universities and National Development

(Continued from page 152)

inadequate because of lack of industrial/work experience for teachers and lack of exposure to 'world of work'.

Dr. Satish Chandra, drew the attention to the fact that while drastic changes were to be brought into the educational system, those who want such changes were not serious and there was always a 'we and they' syndrome. He differentiated between the 'inside' of the system and that of 'outside' of the system in relation to all kinds of demands put on the educational system.

Dr. Varadarajan, in his concluding remarks, felt that in India, performance evaluation was not in existence and felt that periodically, people must be evaluated on their 'performance'. There must be increasing 'accountability' to the system and felt that universities must change and promote thinking/action/accountability. Work experience/Managerial education must be built in the form of courses which should not be regimented, because the real world was not regimented. He deplored that 'originality'

was not fostered, valued and encouraged and also the fact that there was no systematic follow-up study or research on university products. There was very little 'experimentation' and therefore there was 'fragmented education' with little relevance.

Mr. Sabanayagam wanted universities to think of doing many things to bring in linkage with rural setting without much of men-material-money demands. He felt that universities must participate in a big way in national development especially in the areas of rural development, adult education etc.

'What ought to be done' had been discussed a great deal felt Dr Amrik Singh, Vice-Chancellor, Punjabi University. He said that certain things could not be done because things were as they are; he stressed that except for a small number of devoted teachers, rest of them were there because they were there. Most of them were geared to 'non-performance'. He strongly felt that realistic policies in terms of recruitment promotion/conditions/ethos of work had to be

evolved in addition to the improvement of the 'working' force. Every year, granting that about 5000 good, new teachers are recruited, it will take 3 or 4 decades before higher education will have an excellent work force. Mr. Noor Mohammed, Member, UPSC, registering his reactions felt strongly the absence of job orientation, the ability to 'think' on the part of products from universities and also finally loss of moral values. Talking of positive steps to improve the system, Dr Ram Joshi, Vice-Chancellor, Bombay University felt that curricular orientations, modernisation of syllabi building in the components of national development, are to be thought off; courses must take into account applicability, usability, immediacy, experientiality and interdisciplinarity.

Finally Dr. (Smt.) Madhuri Shah, pleaded for policy research, greater need for flexibility in curriculum, management etc. She felt that there was a need for changing assessment and evaluation procedures of student's, teacher's and others' performances. □

Commonwealth Meet on youth programmes

President Sanjiva Reddy inaugurated recently the commonwealth meeting on government policy on youth programmes in Chandigarh. He said that youth activities in various countries needed to be coordinated and the policy should be framed consistent with the social and economic goal of the participating countries. The President hoped the common youth programme which was sought to be evolved at the conference would provide a firm base for the development of youth and its involvement in the community activities. Youth could be an asset to society if they were properly understood, channelled and appreciated by the society. Shri Reddy appreciated the effort of the Commonwealth Secretariat in evolving a common youth programme for the participating countries. He referred to the National Service Scheme and poin-

programme was initiated as a defensive reaction to the student unrest witnessed all over the world. The purpose of the present effort was to make youth socially constructive. He stressed that youth should be heard in the corridors of power and society should be receptive to their problems and their views. He said the Commonwealth Secretariat would hold a conference in May at Colombo to deal with the problem of youth unemployment.

The Conference was attended by about fifty participants from twenty five countries.

Re-orientation of medical education

A provision of Rs five crores has been made in the central budget for the next financial year for re-orientation of medical education in the country. The scheme initiated last year on an experimental basis aims at involving medical colleges for providing

sor football, athletics and tennis teams to the World University Games scheduled to be held in Mexico in September this year. The programme for selection of players and their training include three camps and preliminary selection trials for footballers and athletes. The tennis players would be selected in consultation with the All-India Lawn Tennis Association. The first camp for footballers would be organised in May as part of the coaching-cum-competition programme. The zonal teams already selected would be admitted in this camp followed by preliminary selection trials in June. Twenty-five selected players would be called for the second camp and the final camp for the team will be organised in August. The camps for athletes would also be organised in May and June followed by preliminary selection trials in July. The venue for the camps and selection trials will be finalised shortly.

Sri Venkateswara Varsity convocation

Delivering the convocation address at Sri Venkateswara University, Dr. Raja Ramanna, Scientific Adviser to the Defence Ministry emphasised the need for an invigorating new philosophy to encourage the coherent effort of the community to produce a new order. He said there was a lack of self-confidence in the people and faith in the future of the country. People rushed to other countries for assistance at the slightest sign of failure which could be attributed to lack of their self-confidence. Dr. Ramanna said that the new philosophy would lead the society away from this darkness. We must have regard to the arts, particularly music, painting, poetry and other literary and cultural activities which led to gentleness of spirit so necessary in this competitive world. We had seen how civilisation had disappeared due to wrong philosophy, inaction and due to complete surrender to self-destructive forces. The society had remained static because it had not allowed scope for originality. Dr. Ramanna said if we did not encourage originality and remained satisfied

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ted out that only one-tenth of the students in universities participated in this programme. He stressed the need for greater participation of youth in developmental activities, including the adult literacy programme launched throughout the country.

Dr. P.C. Chunder, Union Education Minister in his welcome address referred to the national adult literacy programme which he said was a magnificent opportunity to involve the youth in the development of the nation. Development of youth should be viewed as a means of international cooperation. Dr. Chunder said the entire value system and human behaviour were under a searching scrutiny and lack of communication between the old and the young needed the deliberate effort to bring them together. The problem of youth was the problem of development of the nation.

Mr. S.S. Ramphal, Commonwealth Secretary-General in his keynote address said the youth

relief and comprehensive health care through the selected primary health centres and familiarising the undergraduates with the problems of the rural community. The medical colleges would be linked with the district, tehsil and taluk hospitals and primary health centres. The central government had selected twenty-five medical colleges in the country during the last year and provided Rs five lakhs to each hospital under this scheme. Most of the medical colleges were selected from the States of Andhra Pradesh, Maharashtra, Kerala and Uttar Pradesh. The scheme provides that the government medical colleges in the states will accept complete responsibility of promotive, preventive and curative health care of at least three community development blocks in the district where the medical colleges are located.

Teams for Universiad

The Association of Indian Universities has decided to spon-

with the present conditions, there could be no progress.

The convocation was presided over by Shri K.C. Abraham, Chancellor of the University and Governor, of Andhra Pradesh.

Himachal Varsity to conduct research on Indology

Himachal Pradesh University proposes to start Shri Vivekanand Research Institute of Indology as its integral constituent. The University has submitted the proposal involving an expenditure of Rs ten lakhs per year to the state government. The proposed institute will cover studies on the distinctive features of religion, philosophy, culture including tantra, mantra, yantra, gyan bhakti, rajayoga, hathayoga and karmayoga besides other aspects. The Institute will have the Departments of Yoga and Meditation, Indian Culture and Tradition, Religion, Ethics, Spiritual Science, Para-psychology and Indian Philosophy. All the departments will have their independent libraries and will include collection of all important books including rare volumes and manuscripts. The Institute would also publish a research journal with distinctive features of the subjects.

Combined universities Badminton team

Combined Universities Badminton Team gave a good display of their courtcraft and captured the hearts of the spectators in 43rd National and 34th inter-state badminton championships held recently in Udaipur. In the semi-finals, Uday Pawar and Vikram Singh blasted their way into finals by capturing absorbing wins over Maharashtra's Sanjay Sharma and S. Vakil. In the third singles, however, Jaidev Merchant of the universities conceded his match to P. Gandhe in order to keep himself fresh for the crucial doubles. The judgement of the coach, Shri P. Pramanik paid rich dividends and in partnership with Vikram Singh beat a formidable Maharashtra combination of Anil Pradhan and S. Hukku at 15-12; 8-15; 17-14. The combined universities in the finals faced an

uphill task of facing national best team in Karnataka. The universities team however caved in after giving a fight. The result would have been different had the names were drawn otherwise. The lone victory achieved for the universities was due to the great play of Vikram Singh who had made his presence felt every time at the court.

Committee on environment

The Central Government has reconstituted the National Committee on Environmental Planning and Coordination with Dr. B.P. Pal as its Chairman. The Committee will aim at improving environmental education in the country, review policies and advise the government, educational institutions and industry. It will advise on the conservation of nature and promote research in environmental problems.

Kurukshetra Varsity library

The Kurukshetra University Library has preserved forty-one rare unpublished works which are not available in any other library in the country. These are among the five thousand

manuscripts preserved in the library. Some of these manuscripts are three hundred years old; the oldest being a three hundred forty-seven years old sanskrit work on Sastrology. Gun Path Vibitri, a two hundred year old work on sanskrit grammar is among the manuscripts on which research is being conducted.

Sixth plan provision for education

While inaugurating the State Educational Conference in Hyderabad recently, Dr. P.C. Chunder, Union Education Minister, said that an amount of Rs. 900 crores had been allotted for education in the sixth five year plan. He said the plan would lay emphasis on adult education with an allotment of Rs. 200 crores. The Government was planning to cover ten crores of persons under the adult education programme in the next ten years. There were twenty three crores of illiterates in the age group of 15 year while 6.5 crores of children were not going to school at all. The Union Minister said the education problem was stupendous and it had to be tackled on a war footing.

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Form IV

(See Rule 8)

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I, Anjni Kumar, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Sd/-
Publisher

Conferences, Seminars & Workshops

March-May, 1979

Date	Title	Venue	Sponsoring Body
1 Mar—21 Mar	Summer Institute in Aquatic Biology	Surat	South Gujarat University
5 Mar—7 Mar	Training in computers for managers	Bombay	National Productivity Council
5 Mar—7 Mar	Workshop on effective provisioning & spare parts management	Poona	Central Institute of Road Transport
5 Mar—8 Mar	Symposium on production and utilisation of forest products	Jammu	Regional Res. Laboratory
5 Mar—16 Mar	Advanced computer systems	Hyderabad	Administrative Staff College
5 Mar—17 Mar	Course on materials management	Hyderabad	Administrative Staff College
5 Mar—17 Mar	Training Methodology	New Delhi	Indian Inst of Public Admn.
5 Mar—17 Mar	Workshop on Corneal diseases	New Delhi	Dr Rajendra Prasad Centre for Ophthalmic Sciences
6 Mar—12 Mar	Workshop/Seminar on Teaching methods in organisational behaviour	Calicut	Univ. of Calicut, Dept. of Psychology
7 Mar—9 Mar	National Conference on industrial tribology	Dehra Dun	Indian Inst of Petroleum
9 Mar—11 Mar	All India Seminar on Sociology in the 1980's	Trivandrum	Univ of Kerala, Dept of Sociology
12 Mar—15 Mar	International Cashew Symposium	Cochin	Central Plantation Crop Res. Inst
12 Mar—24 Mar	Mineral engineering	Dhanbad	Indian School of Mines
14 Mar—24 Mar	Integrated approach to budgeting	New Delhi	Indian Inst of Public Admn.
15 Mar—17 Mar	Workshop on Safety & accident prevention	Pune	Central Inst of Road Transport
15 Mar—21 Mar	Indo-British exhibition and seminar on the rehabilitation and Vocational education of the handicapped	Delhi	Min of Ed and Social Welfare and British Council
15 Mar—22 Mar	Workshop on Hospital infection with special reference to gram negative bacilli	New Delhi	AIIMS, Dept of Microbiology
15 Mar—24 Mar	Seminar Workshop on the syllabus for B.Ed.	Rohtak	C.R. College of Education
16 Mar—17 Mar	Seminar on development of the theatre in the 20th century	Calcutta	Rabindra Bharati University
16 Mar—18 Mar	Seminar on Modern period of Hindi Literature	Delhi	School of Correspondence Courses, Univ of Delhi
17 Mar—18 Mar	Seminar on Cancer of the breast	Varanasi	BHU, Inst of Medical Sciences
17 Mar—19 Mar	All India Symposium on Food Proteins	Madras	Loyola College
19 Mar—21 Mar	Seminar on the teaching of Hindi language and literature	Delhi	Ram Lal Anand College
19 Mar—26 Mar	Workshop on retinal detachment	Aligarh	Inst of Ophthalmology, A.M. Univ.
19 Mar—31 Mar	Regional workshop on curriculum development	Vellore	Christian Med College and Hospital
21 Mar—24 Mar	Symposium on Celestial Mechanics	Bhagalpur	Bhagalpur University
26 Mar—30 Mar	1979 International conference on fracture mechanics in engineering applications	Bangalore	National Aeronautical Laboratory
26 Mar—31 Mar	Pillar extraction in thick seams	Dhanbad	Indian School of Mines
29 Mar—31 Mar	Symposium on Centre-State relations in India	Kumta	Dr AV Baliga College of Commerce
March 1979	Experimental techniques in fluid mechanics	Bangalore	Indian Institute of Science
March 1979	Seminar on Sobolev spaces and its application in fluid dynamics	Surat	SV Regional College of Engg. and Technology
Mar/April 1979	Materials technology in constructive methods in civil engg.	Bangalore	Indian Institute of Science
End of Mar 1979	Round table conference on transfer of technology in mineral industry in developing countries	Delhi	Institution of Engineers
Last week of Mar	Seminar on human relations and productivity	Dharwar	Karnatak University
2 Apr—4 Apr	National symposium on positron annihilation	Delhi	Univ of Delhi, Dept of Physics
2 Apr—13 Apr	Workshop on the study of development of teacher effectiveness through teaching practice	Poona	SNDT College of Education for Women
2 Apr—12 May	All India Summer Institute on Theatre Practice	Calicut	School of Drama, Calicut Univ
4 Apr—25 Apr	Short Term Institute in Micro teaching for teacher educators	Bombay	PVDT College of Edn for Women
10 Apr—30 Apr	Summer Institute in Applied Solar Energy	Bangalore	Indian Institute of Science
15 Apr—31 May	Summer Institute in the Philosophy of Science	Trivandrum	University of Kerala
16 Apr—20 Apr	Management of Family Welfare programme	Bangalore	Indian Inst of Management
16 Apr—20 Apr	Refresher Course in Administrative Law for law teachers	Ahmedabad	Gujarat Univ, School of Law
16 Apr—21 Apr	Workshop on Home Science Curriculum	Cuttack	Ravenshaw College
18 Apr—20 Apr	First All India Symposium in acarology	Bangalore	Univ of Agricultural Sciences, Deptt of Entomology
23 Apr—28 Apr	Seminar on Hilbert space operator theory and its applications	Vallabh Vidyanagar	Sardar Patel University

Date	Title	Venue	Sponsoring Body
28 Apr—30 Apr	Seminar on the problems and planning strategy for small and marginal farmers of Orissa	Berhampur	Khallicote College
April 1979	Seminar on electrical testing and standardisation	New Delhi	Inst of Engineers (India)
April 1979	Seminar/Workshop on aircraft, airworthiness and air safety	Delhi	Inst of Engineers
1 May—10 May	Symposium on the culmination of social sciences	Gandhigram	Gandhigram Rural Institute
1 May—21 May	Organisation of a Summer Institute in Business Administration for College Teachers	Surat	South Gujarat University
2 May—8 May	Symposium on nuclear interactions at high energies	Rajaram-mohanpur	University of North Bengal
3 May—24 May	Short term institute in linguistics	Kurukshetra	Kurukshetra University
7 May—26 May	Summer School in Modern trends in Mechanical design of turbo-machines	Allahabad	Motilal Nehru Regional Engg College
7 May—5 June	Summer Institute in Algebra	Madras	Ramanujam Inst for Advanced Study in Mathematics, Madras
10 May—6 June	Short term institute in numerical mathematics for college teachers	Surat	SVR College of Engg and Technology, Surat
14 May—4 June	Short term institute in Organic-metallic chemistry	Lucknow	University of Lucknow
14 May—23 June	Summer Institute in Chemistry	Cuttack	Ravenshaw College
15 May—19 May	Summer Institute in Research methodology for research in industrial management and business administration	Pune	Brihave Mahavidyalaya College of Commerce
15 May—25 June	All India Summer Institute in Applied Zoology	Nagpur	Nagpur University
16 May—5 June	All India Summer Institute in recent advances in psychology	Varanasi	Kashi Vidyapith, Dept of Psychology
16 May—12 June	Summer Institute in Computer Science	New Delhi	School of Computer and System Sciences, J.N. University
21 May—8 June	Summer Institute Refresher Course in Mathematics	Kolhapur	Shivaji University
21 May—16 June	Summer Institute in applied mathematics	Madras	Madras Inst. of Technology
22 May—17 June	Summer Institute on Mathematical concepts and techniques in physical and biological sciences for college teachers	Calcutta	Jadavpur University
28 May—17 June	Summer Institute in Modern political analysis	Aurangabad	Marathwada University
29 May—9 June	22 COSPAR (ICSU)/INCOSPAR (INSA)/ISRO on aspects of Space research	Bangalore	INCOSPAR, Ahmedabad
30 May—30 June	Summer Institute on an integrated approach to momentum, heat and mass transfer	Patiala	Thapar College of Engineering
May 1979	Summer Institute in Educational Technology	Indore	Univ of Indore, Dept of Education
May/June 1979	Summer Institute in Political Science	Jabalpur	University of Jabalpur

Subject Index

Date	Title	Venue	Sponsoring Body
Agriculture			
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Computers & Mathematics			
5 — 16 Mar	Advanced computer systems	Hyderabad	Administrative Staff College
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21 May—8 June	Summer Institute Refresher course in Mathematics	Kolhapur	Shivaji University

Date	Title	Venue	Sponsoring Body
Economics			
14—24 Mar	Integrated approach to budgeting	New Delhi	Indian Inst of Public Admn.
Education			
19—31 March	Regional Workshop on Curriculum development	Vellore	Christian Med College & Hospital
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16—17 March	Seminar on development of the theatre in the 20th century	Calcutta	Rabindra Bharati University
Transport & Communication			
April 1979	Seminar/Workshop on aircraft, airworthiness & air safety	Delhi	Institution of Engineers

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Linkage with Environment

(Continued from page 149)

become alive to the services which they may expect from higher education by taking initiatives and formulating specific requests for services. Such intimate involvement will enable the higher education institutions themselves to take full account of the community's needs. There are even grounds for hoping that, for higher education as for the educational system as a whole, the various sectors of the population concerned and the different categories of users of higher education will be associated in the reorientation and reform of educational level and in the designing of curricula which will meet their expectations and concerns.

While it is difficult to give a valid definition of the university service, it can fairly be said that the institution of programmes of this kind entails a number of preconditions. Firstly, that students—and possibly the university teaching staff also—must have a proper job which they combine with their academic activities. Secondly, that the period of a service, be it continuous or intermittent, must be sufficiently lengthy to have an appreciable impact both on the students and on the community. An effort has been made in the National Service Scheme to involve students and teachers in a continuous manner—both during the term time and during vacation. The experience so far suggests that such activities have an extremely beneficial effect upon students and their

educational value constitutes no less important an element than their contribution to social development. NSS activities provide the students and teachers a contact with different aspects of social and professional life and thereby supply practical opportunities for vocational guidance. At the same time they help to develop sense of service, of responsibility, and the various qualities of character which would enable students to play an effective role as the agents of social progress and economic development.

The National Adult Education Programme recently launched by the National Government and the various State Governments, in the country provides yet another opportunity for teachers and students to help the community around institutions of higher learning. The main focus of NAEP is on the deprived sections of the society—those living below the poverty line—those belonging to Scheduled Castes and Scheduled Tribes and women. The response from several institutions of higher learning in the country has been very encouraging. Even during the initial few months of the launching of NAEP nearly 600 colleges have indicated their positive interest in the programme. As we go a long, it is hoped that more colleges and universities will come forward to assist in the implementation of this massive educational programme which is intended to liberate the poor and the oppressed and to change the socio-economic pattern of the nation. □

A list of Doctoral Theses Accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Ashok Kumar. Composition of operators on $L^p(\lambda)$. University of Jammu.
2. Virkar, Kishor Vasudeo. Relativistic elastic systems. Shivaji University.

Statistics

1. Jani, B.B. Profit maximisation and deterioration problems in certain inventory models. Gujarat University.
2. Patel, Hasmukhbhai Chaturbhai. Some problems in sampling. M.S. University of Baroda.

Physics

1. Adeel Ahmad. Studies on bioacoustics and aerodynamics of fliers. Osmania University.
2. Chakrabarti, Bikaskanta. Some features of spin-phonon interaction in magnetic transitions. University of Calcutta.
3. Damle, Jayant Prabhakar. Study of thermal boundary layers: An experimental approach with the help of non-uniform electric fields. Nagpur University.
4. Gopinath, C.R. Molecular force fields of some compounds of sulphur and selenium. Bangalore University.
5. Gupta, Apurba. A study of the lower ionosphere at Ahmedabad. Gujarat University.
6. Gupta, Chander Sheikhar. Physico-chemical, thermal and mechanical studies of some clays. University of Jammu.
7. Gupta, Man Mohan. Investigations in the even wave harmonic oscillator theory of baryonic states: Photo-couplings, pionic photo-couplings, pionic photoproduction and structure functions with "Mixed" nucleon. University of Delhi.
8. Quamara, J.K. Study of optical properties in magneto electrets of transparent plastics. Bhopal University.
9. Sarkar, P.K. A study of Monte Carlo radiation transport calculations. Gujarat University.
10. Sawant, H.S. Studies in solar terrestrial physics. Gujarat University.
11. Sinha, Uma Shankar. Study of diffuse X-ray reflections from crystals and determination of elastic constants $[NH_4H_2PO_4, KH_2PO_4 \text{ \& } (NH_4)_2SO_4]$. University of Bihar.

Chemistry

1. Ashwani Kumar. Synthetic studies in isopentenyl and cinnamyl derivatives of 4-methyl-coumarins, resacetophenone and isoflavones. Himachal Pradesh University.
2. Babu, Thalasila Bose. Some studies on the species and analytical applications of molybdenum (iii) in aqueous medium. Andhra University.
3. Bhatt, Aruna. Ion exchange studies of some carboxylic acids of natural occurrence in aqueous and ethanolic systems. Jiwaji University.
4. Desai, H.G. Studies on various parameters of corrosion inhibitors. Gujarat University.
5. Eswaran, V. Studies on some quinonoid pigments. Madurai Kamaraj University.
6. Ganeshpure, Pralhad Ambadas. Synthetic routes to the $C_8-C_9-C_{10}-C_{11}$ system of lignans. Nagpur University.
7. Jain, Vinod Kumar. Preparation and characterisation of some mono and bis cyclopentadienyl and methylcyclopentadienyl titanium (IV) and zirconium (IV) compounds. University of Delhi.
8. Joshi, B.C. Studies in humic acids: Electrochemical properties and synthesis of humic materials (Gujarat soils). Gujarat University.
9. Khazanchi, Rajesh. Synthetic studies in naturally occurring acetylchromenes, flavones, 2-methyliso-flavones and related compounds. Himachal Pradesh University.
10. Manimaran, T. Synthesis of coumarins, thiocoumarins and carbostyrils. University of Madras.

11. Modi, R.M. Studies in corrosion of aluminium in alkaline media. Gujarat University.

12. Patel, Premananda. Some physico-chemical aspects of cation exchange (calcium-copper) in hydroxylapatite. Sambalpur University.

13. Prasad, Kommuri Mohana Murali Krishna. Some analytical aspects of aline dyes. Andhra University.

14. Raychaudhury, Tapan Kumar. Phytochemical studies on the medicinal plants of India. University of Calcutta.

15. Subrahmanya Sarma, M.V.V.S.S. Chemistry of transition elements: Studies in electrochemical reduction of vanadate. Sri Venkateswara University.

16. Viswanatha Sarma, Gorti. New developments in the analytical chemistry of antimony III. Andhra University.

Earth Sciences

1. Southanou, Sychanthavong. Studies in the precambrian rocks arounds Posina and Kherod in North Gujarat. M.S. University of Baroda.

Engineering & Technology

1. Devotta, Sukumar. Studies in transport phenomena hydrodynamics of drop formation and heat transfer across liquid-liquid interface during formation and rise of drops. University of Madras.
2. Jagadish, K. Kinetics of esterification of isobutyl alcohol with palmitic acid in a batch reactor, using para-toluene sulphonic acid and ZEO-Karb 225 resin catalysts. Kakatiya University.
3. Jayarami Reddy, P. Optimal operation of reservoirs system in Godavari Basin. Kakatiya University.
4. Puthal, Bhagabat. Optimal control of parallel AC-DC power systems. Sambalpur University.

BIOLOGICAL SCIENCES

Microbiology

1. Dandekar, Satyaprabha. Regulation of carotenogenesis in *Blakeslea trispora*. M.S. University of Baroda.

Marine Biology

1. Gopinatha Menon, N. Studies on the biology and fishery of the giant marine cat fish. *Tachysurus* (Ruppell). University of Cochin.

Botany

1. Badami, Ashok R. Histopathological aspects of *Fusarium* wilt syndrome in cotton. University of Madras.
2. Chandrashekara, K.V. Studies on coprophilous fungi. University of Madras.
3. Das, Suresh Chandra. Endogenous factors responsible for dormancy in the tea bush with particular reference to environmental conditions in North East India. Gauhati University.
4. Gabriel, Simon M.S. Studies on the members of the family rivulariaceae and scytonemataceae (Blue-Green algae). University of Madras.
5. Kak, Shiban Nath. Induced mutagenesis in some of the species of genus *Mentha*. University of Jammu.
6. Koduru, Prasad Ramakrishna. Cytogenetic studies on spontaneous mutant phenotypes of *Pennisetum americanum* (L) Leeke. Andhra University.
7. Megha, B.M. Metabolic aspects of growth and differentiation in plants. Gujarat University.
8. Saikia, Niloofer Rahman. On the production of hyperfragments in 1.8 GeV/CK interactions. Gauhati University.
9. Sharma, Banwari Lal. Phytopathological studies on storage diseases of potatoes. Jiwaji University.
10. Sukhadani, Asha Narayan. Embryology of some *tu biflorae*. Nagpur University.

Zoology

1. Baskar, S. Mechanism of low zone tolerance to sheep erythrocytes in the lizard, *Versicolor*. Madurai Kamaraj University.
2. Dinesh Chandra. Soluble esterases in the tissues of *Prodenia litura* Fabricius. University of Bihar.
3. Joshi, Madhu. Absorption of cholesterol in certain insects with special reference to *Periplaneta americana* L. University of Delhi.
4. Lalita Devi, S. Biology, ecology and ethology of the pea-crab, *Pinnotheires placenae* (Southwell & Harnell). Andhra University.
5. Nath, Panchanan. Experimental studies on endocrine regulation of vitellogenesis in the catfish, *Heteropneustes fossilis* (Bloch). University of Delhi.
6. Pandya, Arvindkumar Prabhulal. A survey of genus *Phlebotomus* and its ecology, its breeding in captivity, its ectoparasites, feeding habits and resistance to insecticides in Gujarat. M.S. University of Baroda.
7. Ramanaiyah, G.V. Aspects of neuroendocrine control of metabolism in the slug, *Laevicaulis alte*. Sri Venkatswara University.
8. Seshagiri Rao, Buddhiraju Venkata. Systematic studies on three genera of clupeoid fishes from Indian waters and biometric comparison of stocks of three species from two localities. Andhra University.
9. Veerabhadra Sharma, Giriraju. Taxonomic studies on the fresh water cat fishes of Guntur District in Andhra Pradesh and some aspects of the biology of *Mystus cavarius* (Hamilton, Buchanan, 1822). Andhra University.

Medical Sciences

1. Basu, Jayasri. Effects of administration of L-lysine or L-threonine on ascorbic acid metabolism. University of Calcutta.
2. Dhariwal, Kuldeep Raj. Studies on lipid metabolism of mycobacteria. University of Delhi.
3. Manimekalai, S. Influence of hormones on reproductive tissues and liver. University of Madras.
4. Mathangi, Karimphat. A study of anatomy, physiology, pathology of velo-pharyngeal incompetence and its management in plastic surgery. University of Madras.
5. Simon, Johanna. Biochemical changes in tissues in experimental atherosclerosis: A study on the effect of kanthasindhooram and clofibrate. University of Madras.

Agriculture

1. Anjaneyulu, Valam Ram. Intercropping of hybrid bajra *Pennisetum typhoides* (Burm. F) Stapf & C.E. Hubb with mung, *Vigna radiata* (L.) Wilczek under rainfed conditions. Indian Agricultural Research Institute, Delhi.
2. Attar Singh. Response of short duration pigeon pea, *Cajanus cajan* (L.) Millsp varieties to varying row spacings and phosphorus levels under rainfed conditions. Indian Agricultural Research Institute, Delhi.
3. Bagde, Tularam Raghunath. Chemical regulation of ripening, yield and quality of phalsa, *Grewia subinaequalis* L. Indian Agricultural Research Institute, Delhi.
4. Bhat, M. Gopalakrishna. A study on inheritance of hairiness and other plant characters associated with jassid, *Amrasca devastans* Dist., resistance in cotton, *Gossypium hirsutum* L. Indian Agricultural Research Institute, Delhi.
5. Bhattacharyya, Basanta Kumar. Some contributions to the theory of non-sampling errors. Indian Agricultural Research Institute, Delhi.
6. Bhonde, Satishkumar Ruprao. Chemical regulation of sex expression in cucurbits. Indian Agricultural Research Institute, Delhi.
7. Butchi Raju, D. Genetical studies in *Cicer arietinum* L with special reference to performance in mixtures. Indian Agricultural Research Institute, Delhi.
8. Chaudhary, Santosh Kumar. Environmental influence and heterosis exploitation in sunflower, *Helianthus annuus* L. Indian Agricultural Research Institute, Delhi.
9. Choudhury, Ajoy Kumar. Effect of soil and nitrogen management on the growth and yield of transplanted rice. Indian Agricultural Research Institute, Delhi.

10. Desh Raj. Studies on the control of mustard aphid, *Lipaphis erysimi* Kaltendbach with special reference to the utilization of natural enemies. Indian Agricultural Research Institute, Delhi.
11. Duara, Pradeep Kumar. Evaluation of actual and mechanical diallels developed from heterozygous maize, *Zea mays* L. populations. Indian Agricultural Research Institute, Delhi.
12. Dwarika Prasad. Studies on 1, 2-dibromo-3-chloropropane in relation to its diffusion, persistence in soil and uptake by plants. Indian Agricultural Research Institute, Delhi.
13. Girdhari Lal. Studies on the basis of resistance in maize and sorghum to *Chile partellus* (Swinhoe). Indian Agricultural Research Institute, Delhi.
14. Gupta, Krishna Kumari. Effect of salinity on lipid components of gram, *Cicer arietinum* L. Haryana Agricultural University.
15. Hampaiha, R. Studies on the utilisation of phosphorus by crop plant in cereal-cereal and legume-cereal rotations by tracer methodology. Indian Agricultural Research Institute, Delhi.
16. Hanslas, Vijay Kumar. Studies on induced mutations in peas, *Pisum sativum* for quantity and quality of protein. Indian Agricultural Research Institute, Delhi.
17. Hira Lal. Effect of some physiologically active organic wastes on soil fertility and plant growth. Indian Agricultural Research Institute, Delhi.
18. Hooda, Randhir Singh. A comparative study of progeny performance of certain sugarcane crosses. Haryana Agricultural University.
19. Jagat Ram. Genetic analysis of infectivity and effectivity of *Rhizobium leguminosarum*. Indian Agricultural Research Institute, Delhi.
20. Jain, Paras Mal. Studies on the effect of mulch, antitranspirant and fertilizer application on water use, nutrient uptake and yield of the crops under rainfed conditions. Indian Agricultural Research Institute, Delhi.
21. Kale, Pandurang Narsingrao. Studies on F_1 hybrids and synthetics in Indian cauliflower, *Brassica oleracea* L. var botrytis L. Indian Agricultural Research Institute, Delhi.
22. Kartar Singh. A study of neo-marginal farmer's farming situations and socio-economic impact of new agricultural technology. Indian Agricultural Research Institute, Delhi.
23. Kaura, Dilip Kumar. Development, textual and format criteria for an effective Hindi farm magazine. Indian Agricultural Research Institute, Delhi.
24. Kishore, Deep Kumar. Physiological studies on salt tolerance in grapes cv. perlette. Indian Agricultural Research Institute, Delhi.
25. Madankumar, Nara. One dimensional models for prediction of accumulation and leaching of salts in two texturally different soils. Haryana Agricultural University.
26. Manchanda, Manohar Lal. Pedogenic characterization of salt-impregnated soils of a part of Haryana. Haryana Agricultural University.
27. Mishra, Saryu Prasad. A study of farm entrepreneurship in a backward district of Bihar. Indian Agricultural Research Institute, Delhi.
28. Mishra, Sharda Prasad. Selection for heterosis and combining ability in grain sorghum, *Sorghum bicolor* L. Moench. Indian Agricultural Research Institute, Delhi.
29. Nagarajan, Shantha. A study of cell water for elucidating the mechanism of thermal resistance of crop plant, wheat. Indian Agricultural Research Institute, Delhi.
30. Narayankhedkar, Shankar Gunderao. Genetic and environmental factors in dairy sire evaluation. Haryana Agricultural University.
31. Om Dutt. Effect of high doses of nitrogen and phosphorus in long term to 'wheat-bajra' rotation on soil physical properties. Indian Agricultural Research Institute, Delhi.
32. Pawar, Jagannath Rao. Changes in resource use structure, resource productivities and allocation efficiency on farms in Maharashtra. Mahatma Phule Krishi Vidyapeeth.

33. Phukan, Paramanada. Taxonomic studies of plant parasitic and free-living nematodes from Assam. Indian Agricultural Research Institute, Delhi.
34. Prasad, Shankar. Studies on the interrelationship of nitrogen and irrigation in spring tomato. Indian Agricultural Research Institute, Delhi.
35. Raghu Mohan, N.G. Morpho-genesis, classification and utilization of soils of Goa. Indian Agricultural Research Institute, Delhi.
36. Ray, Ajit Kumar. Optimization of resource use in irrigated farms of Hooghly District: An application of linear programming techniques. Indian Agricultural Research Institute, Delhi.
37. Sadamate, Vishwanath Vishnu. A study of tribal farming system and technological gaps. Indian Agricultural Research Institute, Delhi.
38. Saha, Satya Narayan. Physiological analysis of growth, flowering and yield potential in *Sesamum indicum* L. Indian Agricultural Research Institute, Delhi.
39. Saikia, Upendra Nath. Hyphomycetes of Assam and adjacent areas. Indian Agricultural Research Institute, Delhi.
40. Sarkar, Dipak. Some factors affecting direct use of low grade Mussoorie rockphosphate. Indian Agricultural Research Institute, Delhi.
41. Sarode, Shivaji Vyankatrao. Residues and residual toxicity of phorate, fenitrothion, BHC and lindane on bhindi and cauliflower. Indian Agricultural Research Institute, Delhi.
42. Saxena, Jageshwar Dayal. Studies on the effect of gamma radiation on a phosphine resistant strain of *Tribolium castaneum* (Herbst). Indian Agricultural Research Institute, Delhi.
43. Sham Singh. Biometrical analysis to predict the

- breeding potential in a cross of 'Upland' cotton, *Gossypium hirsutum* L. Punjab Agricultural University.
44. Shanti Sarup. Studies on some aspects of anaplasmosis with special reference to its serology and immunology. Haryana Agricultural University.
45. Singh, Chandra Shekhar. Nodulation study with indigenous varieties of soybean. Indian Agricultural Research Institute, Delhi.
46. Sisodia, Bhupendra Veer Singh. On preliminary test estimation procedures and bias in repeated surveys. Indian Agricultural Research Institute, Delhi.
47. Srivastava, Mahendra Lal. Studies on the family muscidae (Phaoniinae) with special reference to shoot flies. Indian Agricultural Research Institute, Delhi.
48. Surve, Dinkarrao Nilkanthrao. Studies on soil moisture stress in relation to growth, yield, quality and water use efficiency of field peas. Indian Agricultural Research Institute, Delhi.
49. Talwar, Shankar Narayan. Evaluation of some tetraploid *Triticum* species for yield and its components. Indian Agricultural Research Institute, Delhi.
50. Varma, Narendra Swaroop. Genetics of yield and some quality characters in barley. Indian Agricultural Research Institute, Delhi.
51. Venkata Rao, C. Combining ability and adaptation analysis in pearl millet, *Pennisetum typhoides* (Burm) S & H. Punjab Agricultural University.
52. Vinod Kumar. Availability of sulphur to plants as affected by sulphur, phosphorus, zinc and molybdenum application. Haryana Agricultural University.
53. Virendra Pal Singh. Genetics of seed characters and their association with components of ball weight in *Gossypium hirsutum* L. Indian Agricultural Research Institute, Delhi.

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- Agrell, Tina. *Recruitment techniques for modern managers*. Willingborough Thorsons (c 1977) 117p.
- Alamgir, Mohiuddin. *Long term dynamic model for planning the manpower and educational system of Bangladesh*. Dacca, Bangladesh Institute of Development Economics, 1973. 210p.
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- Sharma, G.D. Resource allocation on education: *An inter, intra-country and inter-temporal pattern analysis*. Delhi, Association of Indian Universities (c 1978) 159p.
- Syed Ameer Ali. *Islamic history and culture*. Delhi, Amar Prakashan, 1978. 230p.
- Vivian, S. *Handbook on in-service teacher training in developing countries of the Commonwealth*. London, Commonwealth Secretariat, 1977. 116p.

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY

P.O. I.I.T. POWAI, BOMBAY-400 076
Advertisement No. 961/79

Applications are invited for the following permanent posts at this Institute in the prescribed form obtainable from the Registrar, Indian Institute of Technology, P.O.I.I.T., Powai, Bombay-400 076 on request accompanied by self-addressed envelope (25 cm x 10 cm). Persons employed in Government/Semi-Government Organisations or Educational Institutions must apply through proper channel. Completed applications together with the requisite copies of certificates and crossed Postal Order for Rs. 7.50 (Rs. 1.88 for SC/ST candidates) as application fee should be sent to the Registrar, Indian Institute of Technology, P.O.I.I.T., Powai, Bombay-400 076 on or before 30.3.1979. The posts carry allowances such as D.A., C.C.A., H.R.A. as per rules of the Institute which at present correspond to those admissible to the Central Government employees stationed at Bombay.

DEPUTY LIBRARIAN

Scale of pay : Rs. 1100-50-1600.

ASSISTANT LIBRARIAN

Scale of pay: Rs. 700-40-1100-50-1300.

Qualification & Experience

1. Deputy Librarian

Good Master's degree of a recognised University plus Degree/Diploma in Library Science, or Good Bachelor's degree with Master's degree in Library Science. 10 years' experience in a responsible capacity in a University level Library. Should be well conversant with the day to day working of the Library and should have keen interest in Library Management including Acquisitions, Technical processing, Library Budgeting, Documentation & Information etc. In the case of candidate with considerable experience and proven ability, the requirement of formal qualification may be relaxed.

2. Assistant Librarian

Good Bachelor's degree of a recognised University plus degree/diploma in Library Science. Master's degree in Library Science preferable. 7 years' experience in a responsible capacity in a University level Library. Should be well conversant with the day to day working of the Library and Documentation & Information, Book Bank, Special Collections, Readers' Assistance & Providing help in General Library Administration, Maintenance of Reprography Unit & Binding, Collections of Technical Reports, Standard and Patent Specifications, Exchange etc.

UTKAL UNIVERSITY

BHUBANESWAR-751004

Department of Psychology

Applications are invited for the following Areas of Studies and Research: (a) Social, (b) Comparative & Physiological, (c) Educational (d) Developmental.

lopmental.

(a) Research Associates (four)

Rs. 1000/- or 1200/- or Rs. 1400/- p.m.; Requirement—Ph.D. in Psychology or Education with specialisation in Ed. Psy.

(b) Senior Research Fellow, (One)

Rs. 600/- p.m.; Requirement—Ph.D. in Psychology or Education with specialisation in Ed. Psy. or equivalent publications.

(c) Junior Research Fellow, (One)

Rs. 400/- p.m.; Requirement B+ in M.A. in Psychology.

(d) Teacher Fellow, (Eleven);

Living allowance of Rs. 250/- p.m., in addition to salary from his employer; Requirement—University and college teachers securing at least 50% in M.A. in Psychology are eligible.

(e) National Scholarships, (Eight);

Rs. 250/- p.m. Requirement—Outstanding Psychology honours graduates desiring to continue M.A. in Psychology in the Dept. in July.

Forms will be supplied on receipt of Rs. 3.21 by Crossed Indian Postal Order and a self-addressed Registered envelope. Forms are available free for National Scholarship only.

Last date of submission of completed application forms for all categories except (e) is 16.4.1979. Last date for National Scholarship is 30.6.1979 or within two weeks of publication of B.A. Examination, 1979, of Utkal University.

HEAD

DEPARTMENT OF PSYCHOLOGY

UTKAL UNIVERSITY

UNIVERSITY OF DELHI

DELHI-110007

Advertisement No. Estab. IV/57/79

Dated 6th March, 1979

Applications on the prescribed form are invited for the following posts:

Department & Designations

Political Science

One Professor, One Reader (For South Campus)

Chemistry

(i) Two Readers (One temporary upto 31.1.1980).

(ii) Senior Technical Assistant (Photographer-cum-Artist) (Temporary but likely to continue).

Economics

Two Readers (One upto 1.12.1980 and another upto 23.7.1980)

Management Studies

One Reader (temporary but likely to continue.)

Physics

Two Readers.

Sanskrit

One Reader (temporary but likely to continue.)

Geography

One Reader

Central Science Facility

One Electronic Engineer

Faculty of Law (Law Centre No. 1)

Two Lecturers (One upto 12.2.1981 and another upto 15.1.1981).

Zoology

(i) Two Technical Assistants (tempo-

rary but likely to continue) One reserved for Scheduled Caste and another Scheduled Tribes/Ex-service-men).

(ii) Two Animal Attendants (One each reserved for Scheduled Caste/Ex-service-men).

Botany

* (i) Three Readers (Two permanent and one temporary upto 4.10.1979).

* This is in supersession of the earlier advertisement (Estab. IV/56/78) for Readerships in Botany. Those who have already applied in response to the above advertisement need not apply again.

(ii) Two Technical Assistants (Temporary but likely to continue) One each reserved for Scheduled Caste/Scheduled Tribes.

(iii) Two Laboratory Attendants (One each reserved for Scheduled Caste/Ex-service-men).

Mathematical Statistics

One Reader.

The scales of pay of the posts are :

Professor : Rs. 1500-60-1800-100-2000-125/2-2500.

Reader : Rs. 1200-50-1300-60-1900.

Lecturer : Rs. 700-40-1100-50-1600.

Electronic Engineer : Rs. 1500-60-1800-100-2000.

Senior Tech. Assistant : Rs. 550-25-750-EB-30-900.

Technical Assistant : Rs. 425-15-500-EB-15-560-20-700.

Lab. Attendant : Rs. 210-4-250-EB-5-270.

Animal Attendant : Rs. 196-3-220-EB-3-232.

All posts carry D.A., C.C.A., H.R.A. as admissible under the rules in force in the University from time to time.

ESSENTIAL QUALIFICATIONS FOR Professorship

A scholar of eminence. Independent published work of high standard and experience of teaching post-graduate classes and guiding research for a considerable period desirable.

Readership

Good academic record with first or high second class Master's Degree in the subject concerned with a Doctor's Degree or equivalent published work.

Independent published work (in addition to the published work mentioned above) with at least 5 years' teaching experience in Honours/Post-graduate classes essential.

LECTURESHIP IN LAW (LAW CENTRE-I)

Consistently good academic record with a first or high second class (B+) Master's Degree in Law or an equivalent Degree of a foreign University in the subject concerned.

Explanation

Consistently good academic record would mean overall record of all assessments throughout the academic career leading to the Master's Degree which should atleast be B+ or high second class.

ELECTRONIC ENGINEER (Central Science Facility)

Second class post-graduate degree i

Engineering or Science with at least 10 years' experience with proven ability in maintenance and repairs of Electronic/Electrical/Scientific equipment.

Note : Post-graduate degree in Engineering or Science means degree such as M.E., M.Tech. in Engineering in any branch, M.Sc. degree in case of Science in any of the subjects such as Physics, Chemistry etc.

Proven ability in designing and building major instruments.

Capacity to lead and direct R & I activity instrumentation.

Working knowledge with modern analytical instruments.

SENIOR TECHNICAL ASSISTANT
(Photographer-cum-Artist)

Diploma in Art & Photography from a recognised Institution. Experience in Micro filming, Reflex Printing, Projection Slides, making reproduction of Scientific drawings, charts and Dark Room techniques. Some practical experience of photography, developing printing, enlarging, colouring and other processing work.

Note : In case of experienced candidate, any of the qualifications can be relaxed.

TECHNICAL ASSISTANT (Zoology)

Graduate in Science. Experience in Laboratory techniques of the subject.

ANIMAL ATTENDANT (Zoology)

"Should have passed 8th class examination from the Government recognised school with an experience of working in Animal House".

TECHNICAL ASSISTANT (Botany)
for 1st Post

Graduate in Science (with experience of having handled instruments commonly used in the bio-chemical laboratory.)
For 2nd post

B.Sc. or Matric with Science subjects and Diploma in Refrigeration with at least two years' experience.

LABORATORY ATTENDANT
(Botany)

Should have passed the Matriculation or an equivalent Examination with Science subjects.

**SPECIAL/DESIRABLE
QUALIFICATIONS FOR**

Professorship in Political Science

International Politics OR comparative Politics & Public Administration.

Readership in Management Studies

Candidates with Master's degree in Business Management Engineering, Technology, Mathematics or other field of Social Sciences such as Economics, Commerce, Psychology, Sociology etc. with specialisation in Management Policy and Corporate Planning or Management Concepts or Administrative Science will be given preference.

Candidates with experience of teaching post-graduate classes or with consultancy/practical executive experience in a business or an industrial organisation will be given preference. Familiarity with the case method of instruction, advanced training in modern methods of teaching and experience of conducting executive development programmes are desirable.

Lectureship in Law

Teaching experience or specialization in Administrative Law, Mercantile Law, Law of Contracts, Public Control of Business, Jurisprudence, Law and Poverty, Military Law or Law of Taxation.

Readerships in Botany

Training & experience of research in interdisciplinary.

TECHNICAL ASSISTANT (Botany)
1st post

Experience in Laboratory Techniques of the subject (Botany).

READERSHIP IN GEOGRAPHY

Specialisation in any branch of Human or Economic Geography.

LABORATORY ATTENDANT

Should have worked in a Laboratory.

The prescribed application form can be had from the Information Office of the University either personally or by sending a self-addressed envelope (size 5" x 11") with postage stamps worth Rs 2.80.

Selected candidates will have to produce the original documents relating to their age, qualifications, experience etc. at the time of interview.

Applications (separate for each post) accompanied by attested copies of Degrees other certificates, marksheets, published research articles, etc. should reach the undersigned not later than 4th April, 1979.

Note : 1. It will be open to the University to consider the names of suitable candidates who may not have applied in respect of teaching posts. Relaxation of any of the qualifications may be made in exceptional cases, in respect of all teaching posts on the recommendations of the Selection Committee.

2. Canvassing in any form by or on behalf of the candidates will disqualify.

3. Candidates from outside Delhi for teaching posts called for interview, will be paid one second class Rail fair each way from the place of their residence or from the place as mentioned in their application whichever is shorter.

REGISTRAR

**MADURAI KAMARAJ
UNIVERSITY**

MADURAI-625021

Notification No. 2/V/Advt/79

Applications in the prescribed form are invited for the post of one Reader in Islamic Tamil Literature in the University.

Scale of Pay

Rs. 1200-50-1300-60-1900.

General Qualifications

M.A. in Tamil with first or high second class, with Ph.D. in Tamil and research publications of recognised merit on Islamic Literature in Tamil. Minimum teaching experience of 5 years at the Collegiate level or equivalent research experience. Candidates without Ph.D. but with recognised research record in Islamic Tamil Literature will be considered for appointment. Knowledge of Arabic and another Indian language preferable.

Appointment of persons on deputation will also be considered, if the candidates are found suitable and the employer is agreeable to spare the services.

The Prescribed form of application and full details regarding qualifications and experience required can be got from the undersigned on requisition, accompanied by 1) a self-addressed envelope with postage stamps to the value of Re. 1/- affixed thereon and 2) State Bank of India challan for Rs. 5/- (Account No. 1) or Demand Draft for Rs. 5/- payable at Madurai drawn in favour of the Registrar, Madurai Kamaraj University, Madurai-625021.

The last date for receipt of requisitions for the prescribed form of applications is 20th March 1979 and the last date for receipt of filled in applications is 26th March 1979. Applications received after the due date will not be considered.

**B. Murugan
REGISTRAR**

**THE UNIVERSITY OF
BURDWAN**

**RAJBATI : BURDWAN
WEST BENGAL**

Advertisement No. 12/78-79

Dated 6th March, 1979

Applications in the prescribed form are invited for the following posts in the approved scales of pay (viz. Lecturer—Rs. 700-40-1100-50-1600) with allowances and other benefits according to University Rules.

A. Department of History

(i) Lecturer : One post

B. Department of Mathematics

(i) Lecturer in Statistics : One post

C. Department of Geography

(i) Lecturer : Three posts.

MINIMUM QUALIFICATIONS

(a) A Doctor's Degree or published research work of an equally high standard and

(b) Consistently good academic record with first or high second class (B in the seven point scale) Master's Degree in the relevant subjects or an equivalent degree of a foreign University.

**DESIRABLE QUALIFICATION
SPECIALISATION OR
PROFICIENCY**

For A : Any Branch of the subject

For B : Mathematical Statistics/Multivariate Analysis/Econometrics/Industrial Statistics/Bio-statistics

For C : (i) One post with specialisation in Economic Geography

(ii) One post with specialisation in Cartography/Meteorology/Geomorphology

(iii) One post with specialisation in Physical or Social branch subject

The University Council may, on recommendation of the appropriate Selection Committee, waive any of the requirements in view of the candidate's specialised knowledge in the subject. The choice of the Committee may not necessarily be confined to those who

apply formally. Those who applied earlier for the posts under "C" need not apply again.

For application form and other information apply to the Registrar with a self-addressed stamped (0.40p.) envelope (9" x 4").

Last date for submission of applications with the requisite fee of Rs. 5/- is March 24, 1979.

**A.K. Chaudhuri
REGISTRAR**

DIBRUGARH UNIVERSITY
DIBRUGARH—ASSAM
Advertisement No. 2/79

Applications are invited for the following posts :

1. Professor in English—One post
2. Professor in History—One post
3. Reader in Applied Geology—Three posts
4. Reader in Statistics—Two posts
5. Reader in Life Sciences—Two posts
6. Reader in Economics—One post
7. Reader in Commerce—One post
8. Reader in Political Science—One post
9. Reader in Education—One post
10. Lecturer in Mathematics—Three posts
11. Lecturer in Chemistry—One post
12. Lecturer in Physics—Two posts
13. Lecturer in Commerce—One post
14. Lecturer in Life Sciences—Two posts
15. Lecturer in Political Science—One post
16. Lecturer in English—One post (For the Department of Education.)
17. Lecturer in Applied Geology—Two posts

Scale of Pay

Professor : Rs. 1500-60-1800-100-2000-125/2-2500/- (Revised)

Reader : Rs. 1200-50-1300-60-1900/- (Revised).

Lecturer : Rs. 700-40-1100-50-1600/- (Revised).

All posts carry usual allowances admissible under the University rules in force from time to time and the incumbents will be eligible for Contributory Provident Fund and Gratuity on confirmation as per rules of the University.

Essential Qualifications

A. For Professor

An eminent scholar with published work of high quality actively engaged in research, ten years' experience of teaching and/or research experience of guiding research at doctoral level.

OR

An outstanding scholar with established reputation who has made significant contribution to knowledge.

B. For Reader

Good academic record with a doctoral degree or equivalent published work. Evidence of being actively engaged in (i) research (ii) innovation in teaching methods or (iii) production of teaching materials.

At least five years experience of teaching and/or research provided that

at least three of these years were as Lecturer or in equivalent position.

C. For Lecturer

(a) A Doctorate Degree or research work of an equally high standard; and

(b) Consistently good academic record with 1st or high 2nd class (B in the seven point scale) Master's Degree in a relevant subject or an equivalent degree of a foreign University (Consistently good academic record with an M.Phil Degree in Education in case of Lecturer in Education). Having regard to the need for developing interdisciplinary programmes, the degrees in (a) and (b) above may be in relevant subject.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable a person possessing a consistently good academic record (weightage being given to M.Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years or has practical experience in a research laboratory/organisation on the conditions that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils those requirements.

Specialisation required

For the post of Reader in Applied Geology

Specialisation in any applied branches of geology (e.g. Hydrogeology, Petroleum Geology, Geological Prospecting, Geophysical Prospecting, Geochemical Prospecting, Engineering Geology, Mining Geology, Mineral Technology, Mineral Economics etc.) Preferably with industrial and/or field experience.

4. For the post of Reader in Statistics

Post No. 1: Econometrics/Demography/Educational Statistics/Information Theory.

Post No. 2: Stochastic Processes/Statistical Inference/Experimental Design/Sample Survey.

5. For the post of Reader in Life Sciences

Specialisation in M.Sc. level—Botany, Zoology, Biology, Life Sciences.

Specialisation preferable—Biochemistry, Physiology, Pathology, Microbiology, Parasitology.

6. For the post of Reader in Economics

Industrial Economics of Education.

7. For the post of Reader in Commerce

Business Statistics & Advanced Accountancy.

OR

Business Statistics & Public Finance and Fiscal Policy.

8. For the post of Reader in Political Science

—Open. However preference would be given to candidates having specialisation in Political Theory/or Public Administration.

9. For the post of Reader in Education

M.Ed. or M.A. in Education with B.T./B.Ed.

10. For the post of Lecturer in Mathematics

- (1) Specialisation in Elasticity of Fluid Mechanics (for the permanent post)
- (2) Specialisation in Numerical Analysis or Computer Programming (for the leave vacancy).
- (3) Specialisation in Abstract Algebra or Functional Analysis, or Differential Topology (for the leave vacancy).

11. For the post of Lecturer in Chemistry

Organic Chemistry.

12. For the post of Lecturer in Physics

No specialisation is needed.

13. For the post of Lecturer in Commerce

Business Statistics & Monetary and Banking Policy.

OR

Business Statistics.

&

Law & Practice of Direct Taxes.

14. For the post of Lecturer in Life Sciences.

Specialisation at M.Sc. level—Botany, Zoology, Biology, Life Sciences.

Preferable specialisation—Genetics, Endocrinology, Entomology.

15. For the post of Lecturer in Political Science

Government and Politics in India.

16. For the post of Lecturer in English (Deptt. of Education)

- (a) English language teaching with training in teaching English as a foreign language in any Institute/Centre of foreign language.
- (b) Preferably with B.T./B.Ed. or M.Ed.

17. For the post of Lecturer in Applied Geology

Specialisation in any applied branches of geology (e.g. Stratigraphy, Structure and Tectonics, Geological Mapping, Economic Geology, Geological Prospecting, Geochemical Prospecting, Engineering Geology, Mining Geology, Mineral Technology, Mineral Economics, Hydrogeology Petroleum Geology, etc. preferably with industrial and/or field experience.

Nine copies of applications for a post of professor and seven copies of applications for a post of Reader or Lecturer in plain papers giving full bio-data including (1) Name in full (in block letters); (2) Father's name; (3) Date of birth; (4) (a) Permanent address (b) Present address (5) Present occupation, if any, including name of employer; (6) Present salary drawn (if any); (7) Detailed academic career from Matriculation/Higher Secondary/High School Leaving Certificate

Examination and onwards showing division/class, aggregate percentage of marks, school/college/University from which appeared (attested copies of Marksheets, Certificates should be enclosed); (8) Details of appointments held with designation, duration, nature of works and name of employers; (9) Research contributions with copies/reprints; (10) Name and address of two referees not related to the candidate together with an application fee of Rs. 5/- (Rupees five) by CROSSED INDIAN POSTAL ORDER drawn in favour of the Registrar, Dibrugarh University, should be sent in an inner sealed cover superscribed "Application for the post of (Name of the post applied for), Advertisement No. 2/79 enclosed in an outer cover addressed to the Registrar (Offg.), Dibrugarh University, Dibrugarh to reach him not later than 7.4.1979.

The number of this advertisement and name of the post applied for must be referred to in the application. Persons in employment should apply through proper channel or with a no objection certificate from the present employer. All reprints of the research papers published must be attached. Those who had already applied need not apply again.

Applications not in conformity with the above requirements will not be entertained.

Candidates will be required to appear at an interview if and when called for. Candidates called for interview for the post of Professor and Reader will be given actual Railway fare according to the rules of this University.

K. Sarma
REGISTRAR (Offg.)

ANDHRA UNIVERSITY

WALT AIR

Advertisement No. 1/79

Applications in the prescribed form are invited for the following posts so as to reach the Registrar, Andhra University, Waltair on or before 5.4.1979. Each application shall be accompanied by a crossed Indian Postal Order for Rs 10/- (Rupees ten only) or a Bank receipt remitting that amount in the State Bank of India to the credit of Andhra University General Account (Ordinary) towards the Registration fee for the application.

Department	Subject	Professor	Reader	Lecturer
1	2	3	4	5
1. Marine Sciences	Marine Ecology	—	1	—
2. Applied Mathematics		—	—	1 (Nuzvid)
3. Meteorology & Oceanography		—	1	—
4. Geology	Hydro-Geology	—	1 (Temp)	1
5. Pharmacy	Physics	—	—	1
6. Physics		—	—	1 (Nuzvid)
7. Economics	Monetary Economics	—	1	—
	Industrial Economics	—	—	1
8. Philosophy	Modern Logic or Phenomenological Analysis	—	1	—
9. Politics & Pub. Admn.		—	1 (Kakinada)	—
10. Cooperation & App. Economics	One in Growth Economics } One in Rural Finance & Coop. }	—	2+2 (Temp)	—
11. I.R.L.W.		—	1	—
12. Anthropology		—	1	—
13. Commerce		—	—	1 (Case Analyst)
14. Civil Engineering		—	1	4
15. Mechanical Engineering	Marine Engineering	1	2	2
	Industrial Engineering	1	—	—
16. Electrical Engineering	One in Tele communication	1+1 (Temp)	—	—
	One in Electronic Circuits.	—	2	—
	One in Electronic Devices	—	—	—

Note

The rule of reservation for Scheduled Castes/Scheduled Tribes/Backward Communities candidates is applicable for the posts of Lecturers.

SCALE OF PAY

Professor: Rs 1500-60-1800-100-2000-125/2-2500

Reader: Rs 1200-50-1300-60-1900

Lecturer: Rs 700-40-1100-50-1600

Case-Analyst: Rs 400-40-800-50-900 (Non D.A. merged Scale).

The details of qualifications prescribed in respect of each post including the particulars and precise branch of specialisation which is needed and also the preferential qualifications considered desirable will be furnished along with the application form.

Requisition for the application forms may be made to Sri M. Chakravarthi, Deputy Registrar, Andhra University, Waltair, accompanied by a self-addressed and stamped envelope and a State Bank of India challan or crossed Indian Postal Order for one Rupee. The University reserves the right to fill or not to fill all or any of the posts. The cover containing the applications should be superscribed as "APPLICATION FOR APPOINTMENT TO THE POST OF _____". Applications received after the due date will not be entertained.

P. Hanumantha Rao
JOINT REGISTRAR

GAUHATI-UNIVERSITY

GAUHATI-781014

Advertisement No. 4 of '79

Applications are invited for the following posts:

1. Professor of Hindi — One post (5th Plan).
2. Professor of Zoology — One post (permanent).
3. Professor of Philosophy — One post (permanent).
4. Professor of Law — One post (5th Plan).
5. Reader in Commerce: Spl. open — One post (5th Plan).
6. Lecturer in Commerce — Two posts. Must be competent to teach Business Statistics and Business Administration/Business Environment.
7. Lecturer in Assamese — Specialisation: M.A. in Comparative Philology (Indo Aryan Group) or M.A. in Sanskrit (Prakrit Group) or M.A. in Assamese (Language Group). Preference will be given to one who has specialisation in Middle Indo Aryan.

Scale of pay: Professor: Rs. 1500-60-1800-100-2000-125/2-2500.

Reader: Rs. 1200-50-1300-60-1900.

Lecturer: Rs. 700-40-1100-50-1600

All posts carry usual allowances admissible under the University rules in force from time to time.

In a case where specialisation has not been mentioned against post candidates should state their areas of specialisation at the Master's and Doctor's degree levels.

ESSENTIAL QUALIFICATION Professor (Arts & Science)

An eminent scholar with published work of high quality actively engaged

in research. 10 (ten) years' experience of teaching and/or research. Experience of guiding research at doctoral level.

OR

An outstanding scholar with established reputation who has made significant contribution to knowledge.

Professor (Law)

- (a) Consistently good academic record with first or High Second Class (B+) Master's degree in Law or any equivalent degree of a foreign University
- (b) Experience of 10 years' post-graduate or 15 (fifteen) years undergraduate teaching.
- (c) Experience in guiding and promoting research.

Preferential

A Doctor's Degree in Law or published work of an equally high standard.

READER

Good academic record with a doctoral degree or equivalent published work. Evidence of being actively engaged in (i) research or (ii) innovation in teaching methods or (iii) production of teaching materials.

About five years' experience of teaching and/or research provided that atleast three of these years were as Lecturer or in an equivalent position. This condition may be relaxed in the case of candidates with outstanding research work.

LECTURER

(a) A Doctor's degree or research work of an equally high standard and (b) Consistently good academic record with 1st or high Second Class (B in the seven point scale) Master's degree in a relevant subject or an equivalent degree of a foreign University. Having regard to the need for developing inter-disciplinary programmes, the degree in (a) and (b) above may be in relevant subjects.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M.Phil or equivalent degree or research work of quality) may be appointed provided he has done research work for atleast two years or has practical experience in a research Laboratory/organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Candidates for being eligible for recruitment to the posts of Lecturers must have a first or high Second Class (B in the seven point scale) at the Master's level and for determining consistently good record, average of 50%, 55% may

be expected at the two examinations prior to the Master's examination.

Applications in plain paper in quadruplicate giving full bio data including (1) Name in full (in block letters). (2) Father's name (3) Date of birth by the christian era (4) (a) Permanent residence and address (in full), (b) present address (in full) (5) Present occupation if any and name of employer, (6) present salary drawn (if any) (7) Detailed academic career with marksheets and subjects studied (including Honours) in degree and post graduate courses from Matriculation/Higher Secondary/High School Leaving Certificate Examination onward and copies/reprints of research contributions, (8) Name and address of two referees not related to candidates together with an application fee of Rs. 10 (ten) (Rs. 7.50 in case of Scheduled Caste/Scheduled tribe candidates) by **CROSSED INDIAN POSTAL ORDER** drawn in favour of Gauhati University payable at the Gauhati-781014 post office should be sent in an inner sealed cover superscribed application for post of (name of post applied for) Advt. No. 4 of 1979 enclosed in an outer cover addressed to Dr. K.C. Battacharyya, M.A., Ph.D., Registrar, Gauhati University, Gauhati-781014 to reach him not later than **25th March 1979**. The number of this advertisement and name of the post applied for must be referred to in the application. Persons in employment should apply through proper channel or with a no-objection certificate from the present employer.

The University has accepted the principle of reservation of twenty posts for Scheduled Tribe and Scheduled Caste candidates according to the norms of the State Government. Candidates should submit necessary certificate from the Deputy Commissioner/District Magistrate if they belong to Scheduled Caste or Scheduled Tribe.

Candidates will be required to appear at an interview if and when called for.

Canvassing directly or indirectly will be a disqualification.

Candidates who had applied for the post of Lecturer in Commerce in response to Advt. No. 10 of 1978 need not apply again.

JAWAHARLAL NEHRU UNIVERSITY NEW DELHI-110067

Announcement of Faculty Positions at the Centre of Post Graduate Studies, IMPHAL.

Advt. No. Acad. III/4/79

The Centre of Post-Graduate Studies, Imphal, of the University has openings for faculty positions in the following disciplines/areas of specialization:

I. CHEMISTRY

1. Professor/Sr. Fellow—one (Chemistry of Natural Products)
2. Associate Professor/Fellow—one (Physical Chemistry)
3. Assistant Professor—one (Bio-Chemistry)

II. PHYSICS

4. Assistant Professor—one (Bio-Physics)

III. ENGLISH

5. Associate Professor/Fellow (English Language)—one (leave vacancy)
6. Assistant Professors—(English Language)
Two—leave vacancies:
(i) One in English language;
(ii) One in English literature in any two of the following:
(a) 20th Century Poetry & Drama
(b) American Literature
(c) Indian & Commonwealth Literature.

IV. MANIPURI LANGUAGE & LITERATURE

7. Associate Professor/Fellow—one (Manipuri Culture including dance & Music forms of the region)
8. Assistant Professor—one (leave vacancy) (Manipuri Language)

QUALIFICATIONS

Professor/Senior Fellow

1. Consistently good academic record with at least a high second class Master's degree in a relevant discipline or an equivalent qualification from an Indian/foreign University.
2. A doctor's degree or published work of an equally high standard; and
3. About ten years' experience of teaching and/or research.

Associate Professor/Fellow

1. Consistently good academic record with at least a high 2nd class Master's degree in a relevant discipline or its equivalent qualification from an Indian/foreign University.
2. A doctor's degree or published work of an equally high standard; and
3. About five years' experience of teaching and/or research.

Assistant Professor

1. Consistently good academic record with atleast a high 2nd Class Master's degree in a relevant discipline or its equivalent qualification from an Indian/foreign University; and
2. A doctor's degree or published work of an equally high standard.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (1) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M.Phil or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years or has practical experience in research laboratory/organisation on the

condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

SCALE OF PAY

Professor/Senior Fellow: Rs 1500-60-1800-100-2000-125/2-2500

Associate Professor/Fellow: Rs 1200-50-1300-60-1900

Assistant Professor: Rs 700-40-1100-50-1600

plus usual allowances as admissible to the members of the staff in the Central University.

Relaxation in any of the qualifications may be made (a) in favour of persons of eminence or of high academic professional distinction, and (b) in exceptional cases where adequately qualified persons are not available but are otherwise found suitable for the respective positions. It will also be open to the University to consider the names of suitable candidates who may not have applied.

The selected candidates will be expected to participate in the teaching and research programmes in the concerned disciplines in other Schools of the University as well as in the programmes offered in their own Centres of Studies.

Normally appointment of Fellows is made on contract basis for a period ranging from one to three years.

Benefits of C.P. Fund-cum-Gratuity/G.P. Fund-cum-Pension-cum-Gratuity are available as per University rules.

Persons already in employment should route their applications through proper channel.

Due consideration will be given to candidates belonging to SC/ST at the level of Assistant Professor.

Second class (mail) rail fare (both ways) will be paid to candidates invited to appear for interview from outstation by the shortest route subject to the production of rail receipt.

Applications, separate for each post, on the prescribed form, obtainable free of cost from the University by sending a self-addressed and stamped envelope of 23cm x 10cm size to the DEPUTY REGISTRAR (ACADEMIC) JAWAHARLAL NEHRU UNIVERSITY, NEW MEHRAULI ROAD, NEW DELHI-110067, should reach him latest by 7th April 1979.

Candidates from abroad, applying for faculty positions, may apply on plain paper (but their applications should reach the University by the last date) furnishing all the relevant informations such as their names, date and place of birth, marital status, nationality, state of domicile, postal and permanent addresses; father's name and address, academic and professional attainments, full details of (a) publications, and (b) research projects undertaken, language (s) known; details of visits to foreign countries; and the name and addresses of at least two persons well acquainted with the candidate's professional work who should also be requested by the candidate to forward to the DEPUTY

REGISTRAR (ACADEMIC) confidential report concerning the candidate.

PUNJABI UNIVERSITY PATIALA

Advertisement No. 258/PRO/Estt/79

Applications are invited for the following posts :

1. Lecturer in Defence Studies—One (Rs. 700-40-1100-50-1600).

Qualifications

- (a) A Doctor's degree or research work of an equally high standard in the relevant subject; and
- (b) Consistently good academic record with 1st or high 2nd class (B in the seven point scale) Master's degree in a relevant subject or an equivalent degree of a foreign University.
- (c) Qualifications prescribed in (b) above are relaxable in case the research work of candidate as evident either from his thesis or from his published work is of a very high standard. If a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing consistently good academic record (weightage being given to M. Phil or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years or has practical experience in a research Laboratory/Organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

SPECIALISATION

Good knowledge of the subject of International Law and International relations.

2. Research Associate in Centre for Research in Economic-Change :—(One). (Rs. 700-40-1100-BB-50-1300).

QUALIFICATIONS

- (a) Ph.D in Economics/Agricultural Economics.

Knowledge of Punjab Economy and its problems.

3. Senior Technical Assistant in University Service and Instrumentation Centre (One). (Rs. 550-25-750-EB-30-900).

QUALIFICATIONS

Diploma in Mechanical Engineering with 5 years' experience in workshop practice and ability to lead and supervise the work of a group (Candidates with additional experience of supervisory work in a mechanical workshop will be preferred.) Candidates will be given practical test at the time of interview.

4. Research Scholars in Human Biology—(Two).

(Tenable for two years in the first instance @ Rs. 400/- p.m. all inclusive).
QUALIFICATIONS

Candidate should possess at least second class Master's degree with at least one year teaching/Research experience after obtaining the Master's degree provided that the condition of experience may be relaxed in the case of first class M.Sc.'s provided further that a candidate with atleast 55% marks both in B.Sc. and M.Sc. could also be considered in case no first class M.Sc. is available.

GENERAL

Higher start within the grade admissible depending upon the ability and experience of the candidate. House rent and Dearness allowance, Provident Fund and Medical facilities according to the University rules.

Applications, complete in all respects on the prescribed form, accompanied by a crossed postal order worth Rs. 5/- (Rs. 2/- for candidates belonging to Scheduled Castes/Tribes and Backward Classes) drawn in favour of the Registrar, Punjabi University, Patiala should reach the University by 28-3-1979. The forms can be had from the Superintendent (Establishment) by sending a self-addressed envelope of the size of 23 x 10 cms stamped with 25 paise postage.

Persons already in service should apply through proper channel; Govt. servants who are not in a position to submit their applications through proper channel before the due date should submit an advance copy before the due date and regular applications through proper channel by 31-3-79.

Gurbachan Singh
REGISTRAR

JAWAHARLAL NEHRU UNIVERSITY NEW DELHI-110067

Advertisement No. Aca. III/5/79

Applications are invited for the post of an Associate Professor in Geology for the School of Environmental Sciences of the University.

QUALIFICATIONS

Essential

- (a) Consistently good academic record with at least high second class Master's Degree in Geology or its equivalent qualification from an Indian/foreign University.
- (b) A Doctor's degree or published work of an equally high standard in Geology.
- (c) About five years experience of teaching and/or research.

Desirable

- (a) Interest and experience in Geochemistry of mineral deposits.
- (b) Desire to participate in inter-disciplinary teaching and research programmes in Environmental Sciences.

SCALE OF PAY

Rs. 1200-50-1300-60-1900 plus usual allowances as admissible to the members of the staff in the Central Universities.

Relaxation in any of the qualifications may be made (a) in favour of persons of eminence or of high academic professional distinction, and (b) in exceptional cases where adequately qualified persons are not available but are otherwise found suitable for the post. It will also be open to the University to consider the names of suitable candidates who may not have applied.

The selected candidate will be expected to participate in the teaching and research programmes in the concerned discipline in other Schools of the University as well as in the programmes offered in his own School.

Benefits of C.P. Fund-cum-Gratuity/G.P. Fund-cum-Pension-cum-Gratuity are available as per University rules.

Persons already in employment should route their applications through proper channel.

Second class (mail) rail fare (both ways) will be paid to candidates invited to appear for interview from outstation by the shortest route subject to the production of rail receipt.

Applications, on the prescribed form, obtainable free of cost from the University by sending a self-addressed and stamped envelope of 23cm x 10cm size to the DEPUTY REGISTRAR (ACADEMIC), JAWAHARLAL NEHRU UNIVERSITY, NEW MEHRAULI ROAD, NEW DELHI-110067, should reach him latest by 7.4.1979.

Candidates from abroad applying for faculty positions, may apply on plain paper, (but their applications should reach the University by the last date) furnishing all the relevant informations such as their names, date and place of birth, marital status, nationality, state of domicile, postal and permanent addresses, father's name and address, academic and professional attainments, full details of (a) publications, and (b) research projects undertaken; language(s) known; details of visits to foreign countries and the name and addresses of atleast two persons well acquainted with the candidates professional work who should also be requested by the candidate to forward to the DEPUTY REGISTRAR (ACADEMIC) confidential report concerning the candidate.

CENTRE OF SOCIAL MEDICINE AND COMMUNITY HEALTH

JAWAHARLAL NEHRU UNIVERSITY

NEW DELHI-110067

Advertisement No. Aca. III/3/79

Applications are invited for the following posts:

SCHOOL OF SOCIAL SCIENCES

1. Associate Professor/Fellow in Community Health

Qualifications

- (a) A consistently good academic record in MBBS or an equivalent qualification from an Indian or foreign university.
- (b) A post-graduate degree in any aspect of community health.
- (c) A doctoral degree in any aspect of community health or published work of an equally high standard.
- (d) About five years of teaching experience or experience in developing inter-disciplinary approach to the education and training, research and consultation in the field of community health.

2. Assistant Professor in Social Anthropology

Qualifications

Essential

- (a) Consistently good academic record, with at least high second class Master's degree in Sociology/Social Anthropology/Community Health or its equivalent qualification from an Indian/Foreign University; and
- (b) A doctor's degree or published work of an equally high standard.

Desirable

Some teaching or research experience.

3. Assistant Professor in Community Health

Qualifications

Essential

- (a) A consistently good academic record in MBBS or an equivalent qualification from an Indian/Foreign University.
- (b) A post-graduate degree in any aspect of community health.
- (c) A doctoral degree in any aspect of community health or published work of an equally high standard.

Desirable

Teaching or research experience in the field of Community Health.

Note

For the post No. 2 and 3.

If the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of a very high standard it may relax any of qualifications prescribed in (a) above.

Further if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M.Phil./M.D. or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years or has practical experience in a research laboratory/organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

SCALES OF PAY

1. Associate Professor/Fellow
Rs 1200-50-1300-60-1900
2. Assistant Professor
Rs 700-40-1100-50-1600

Plus usual allowances as admissible to the members of the staff in the Central Universities.

Relaxation in any of the qualifications may be made (a) in favour of persons of eminence or of high academic/professional distinction, and (b) in exceptional cases where adequately qualified persons are not available but are otherwise found suitable for the respective positions. It will also be open to the University to consider the names of suitable candidates who may not have applied.

The selected candidates for faculty positions will be expected to participate in the teaching and research programmes in the concerned discipline in other Schools of the University as well as in the programmes offered in their own Centres of Studies.

Normally appointment of Fellows is made on contract basis for a period ranging from one to three years.

Benefits of C.P. Fund-cum-Gratuity/G.P. Fund-cum-Pension-cum-Gratuity are available as per University rules.

Persons already in employment should route their applications through proper channel.

Due consideration will be given to candidates belonging to SC/ST at the level of Assistant Professor.

Second class (mail) rail fare (both ways) will be paid to candidates invited to appear for interview from outstation by the shortest route subject to the production of rail receipt.

Applications, separate for each post, on the prescribed form, obtainable free of cost from the University by sending a self-addressed and stamped envelope of 23cm x 10cm size to the DEPUTY REGISTRAR (ACADEMIC), Jawaharlal Nehru University, New Mehrauli Road, New Delhi-110067, should reach him latest by 6.4.1979.

Candidates from abroad, applying for faculty positions, may apply on plain paper, (but their applications should reach the university by the last date) furnishing all the relevant information such as their names; date and place of birth; marital status; nationality; state of domicile; postal and permanent addresses; father's name and address academic and professional attainments; full details of (a) publications, and (b) research projects undertaken; language(s) known; details of visits to foreign countries; and the names and addresses of at least two persons well acquainted with the candidates professional work who should also be requested by the candidates to forward to the Deputy Registrar (Academic) confidential report concerning the candidate.

**JAWAHARLAL NEHRU
UNIVERSITY
NEW DELHI-110067**

Advertisement No. 6/ADMN. III/79

APPLICATIONS are invited for the following posts in the University.

1. SUPERINTENDENTS
(ACCOUNTS CADRE)
 2. NURSE
 3. HEAD ELECTRICIAN
- Qualifications and Experience
for Post No. 1**

A good Degree from a recognized University. At least seven years' experience in accounts/secretarial (administrative) work, preferably in a junior supervisory post in a University/Government/Semi Government Organisations/Autonomous organisations/Public/Private Undertakings of repute.

For Post No. 2

At least Matriculation with three years' Diploma in General Nursing and Six Months' Midwifery Course.

For Post No. 3

ITI Trade certificate with minimum practical experience of Ten years in erection and running and maintenance of different types of both HT and LT mains alongwith installations including underground cable system. Must possess Electrical and Supervisory certificate of competency.

Scale of Pay

For Post No. 1—Rs 550-25-750-EB-30-900

For Post No. 2—Rs 425-15-560-EB-20-640

For Post No. 3—Rs 330-10-380-EB-12-500-EB-15-560

Age Limit

For Post No. 1: 40 years; For Posts No. 2 and 3: 35 years—Relaxable upto five years in the case of candidates belonging to Scheduled Castes/Tribes/Ex-Servicemen/Physically Handicapped and or having special technical qualifications.

Reservations

For Post No. 1—15% and 7½% for members belonging to Scheduled Castes/Tribes respectively;

For Posts No. 2 and 3—16.2/3% and 7½% for members belonging to Scheduled Castes/Tribes respectively;

For Posts No. 1, 2 and 3: 10% for Ex-servicemen and 1% for Physically Handicapped personnel.

Written Examination

For Post No. 1

- I. 'Essay, Office Precise, Drafting and Applied English Grammar';
- II. 'General Office Procedure and Government Service Rules';
- III. 'General Financial Rules, Book-keeping and Auditing';
- IV. 'University Financial Administration, University Act, Statutes and Ordinances'

***Note**

After putting in six months of satisfactory probation period the selected candidates will have to appear in the IV paper.

General

Any of the above qualifications-experience may be relaxed by the University.

The person selected for appointment as Nurse will have to stay on the Campus on the rent-free, unfurnished residential accommodation that will be allotted by the University.

Benefits of CP Fund-cum-Gratuity/GP Fund-cum-Pension-cum-Gratuity are available as per University Rules.

Central Government Health Scheme and Leave Travel Concession benefits are also admissible as per University Rules.

Both ways second class rail fare by the shortest route will be paid to the candidates invited for interview/tests from outside Delhi.

Personnel already in the employment should route their applications through proper channel.

A higher starting pay may be granted to a highly qualified candidate.

APPLICATION FORMS are obtainable, free of cost, either personally or by sending a self addressed and STAMPED envelope of the size 10 x 23 cms, within twentydays from the date of release of the advertisement, to the Superintendent, Administration III, Room No. 101, Old SLS Bldg, NAA Campus, Jawaharlal Nehru University, New Mehrauli Road, New Delhi-110067.

Completed application forms must reach the Deputy Registrar (Administration), Room No. 102, Old SLS Bldg, NAA Campus, Jawaharlal Nehru University, New Mehrauli Road, New Delhi-110067, not later than **24th March 1979**.

**GURU NANAK DEV
UNIVERSITY
AMRITSAR**

Advertisement No. 3/79.

Applications are invited for the post of Professor of Applied Chemistry in the grade of Rs 1500-60-1800-100-2000-125 2-2500 plus allowances as admissible under University rules on prescribed form obtainable (free of cost) from Office of the Registrar by making written request accompanied by self-addressed stamped envelope of 23 x 10 cms. so as to reach this office by **10.4.1979** alongwith crossed postal order(s) for Rs 7.50 drawn in favour of Registrar, Guru Nanak Dev University, Amritsar. Application fee is not refundable.

Persons already in employment must send their applications through their employers.

Qualifications

An eminent scholar with published work of high quality actively engaged in research. Ten years experience of teaching and/or research. Experience of guiding research at doctoral level.

OR

An outstanding scholar with established reputation who has made significant contribution to knowledge.

Specializations

(i) Research experience in extraction and hydrogenation of oils, soaps, fats, paints, varnishes and dyes. (ii) Experience of working in an industrial concern on research problems of applied nature or environmental sciences, etc.

Note

If a qualified person is not available for Professor's post the Selection Committee may consider appointing a suitable person at Reader's level or qualifications may be relaxed in case of persons found suitable otherwise.

**Mohinder Singh Randhawa
REGISTRAR**

**INDIAN INSTITUTE OF
TECHNOLOGY
KHARAGPUR**

Advertisement No. R/1/79—(Continued)

Applications are invited for the undermentioned post at the Indian Institute of Technology, Kharagpur, West Bengal:

1. ASSISTANT PROFESSOR

Scale of Pay

Rs 1200-50-1300-60-1900 plus D.A. as admissible.

Age

Preferably between 30 and 45 years.

Qualifications : Essential

- (i) A good academic record with a Bachelor's or Master's degree in the appropriate branch and a Doctorate degree.
- (ii) Seven years' experience in the field of specialisation prescribed, of which at least 2 years should be in teaching and/or research.

Desirable

- (i) Published research work of good standard.
- (ii) Experience in guiding research.

Vacancies & Specialisation

(i) Mining Engineering: (three posts)

Specialisation in one or more of the following:

(a) Mining Engineering (b) Mining Technology (c) Mine Environmental Engineering (d) Mining Machinery (e) Operation Research and Management (f) Mine Planning.

(ii) Humanities and Social Sciences: for Hindi (one post)

This post was included in advertisement No. R/1/79, but the fact that the designation of the post is Assistant Professor was inadvertently omitted. Qualification, experience and job requirements are the same as advertised earlier.

2. LECTURER

Scale of Pay

Rs 700-40-1100-50-1600, plus D.A. as admissible.

Age

Preferably between 25 and 38 years.

Qualifications

Essential

- (i) A good academic record with a Master's degree in the appropriate branch.
- (ii) Two years' professional experience.

Desirable

A Doctorate degree.

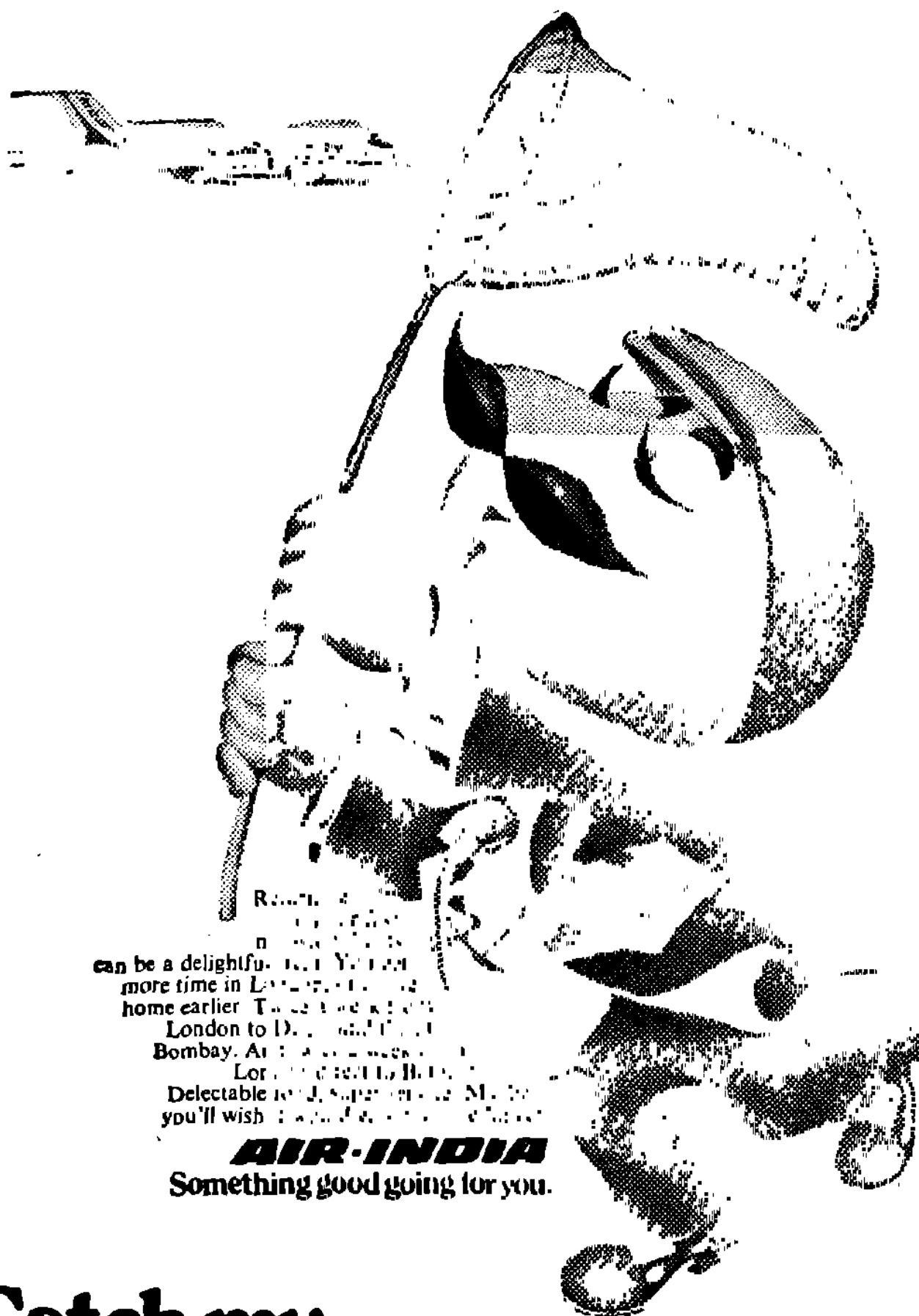
Vacancies and Specialisation

Humanities and Social Sciences: (one post)

Specialisation in Sociology & Political Science.

Application forms may be had from the Registrar on request along with an unstamped self-addressed envelope of size 23cm x 10cm. Applications accompanied with an application fee (non-refundable) of Rs 7.50 (Rs 1.87 for SC/ST candidates) payable by means of crossed Indian Postal Order to the Indian Institute of Technology, Kharagpur, at Kharagpur-2 Post Office should reach the Registrar, IIT Kharagpur by the **31st March 1979** for above posts.

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